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S Journal of the Asiatic

B Society of Bengal

JOURNAL

OF THE

ASIATIC SOCIETY OF BENGAL,

EDITED BY

THE SECRETARIES.

VOL. XVII.

PART II.—JULY TO DECEMBER, 1848.

“ It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of Asia will commit their observations to writing, and send them to the Asiatic Society at Calcutta. It will languish if such communications shall be long intermitted ; and it will die away if they shall entirely cease.”—SIR WM. JONES.

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Dr. Cantor from Life

EQUUS hemionus, Pallas

T. Black, Asiatic Ind. & Begg

JOURNAL

OF THE

ASIATIC SOCIETY.

JULY, 1848.

Notice of the Kiang.—(With Plate.)

In the month of March last a Kiang or wild ass of Tibet, arrived in Calcutta in company with a Hill-poney, to which it had taken a fancy and followed every where. It had been sent down by the Hon'ble J. Thomason, Esq. Lieut.-Governor of the North-West Provinces, to be forwarded to England, and came originally from the plains of Tibet. The following description was taken whilst it was in Calcutta.

It is a male between 2 and 3 years old, and has either been gelt or his testicles have not yet descended. He is still partially covered with his winter coat. His general form, except the head, which is very large, is more that of a horse than an ass. Limbs slender, hind-quarters good, shoulder small and straight. Head large, nose arched, forehead flat, as far as can be perceived, covered as it is with long thick hair. Nostrils large and more terminal than in the horse or ass. Ears of medium size between the horse and ass, but more approximated at their bases than in either of those animals. The eye much more bright and intelligent than in the common ass. Mane erect, and the hair, of which it is composed, about 4 inches long : no foretop. The coat is thick, long and frizzled, something like a camel's. A thick tuft at the end of the tail, which however is not confined to the tip, but extends half way up towards the base. Callosities on the forelegs, none on the hind ones. Height at shoulder 3 feet 10 inches, or 11 hands and a half. Colour ; above, isabella, with a dash of bay or fawn. Beneath, and the 4 legs, breast and nose, yellowish white. The whole of the trunk has a slight tinge of a bluish or leaden hue. The mane, dorsal line, and tuft of tail brown black ; the dorsal line expands at the

rump : ears, outside isabella, inside white, tips and outer border brown black ; irides gray. He neighs like a horse.

Manners. The animal is quite unmanageable by any one except his own saees. On the approach of a stranger he kicks or bites, and it is impossible to get near him to examine any part of his body. He is much attached to the Hill-poney, and never leaves him or allows him to be taken away. He will eat and drink only in company with the poney, which on this account has been sent with him to England.

The Kiang is the same animal as the Dshikketaei first discovered in Siberia by Pallas and named by him *Equus Hemionus*. The Kiang was first seen on the plains of Tibet by Moorcroft, who says it is certainly not the Gur-khur or wild ass of Sindh. The latter appears to have been considered the *Equus Hemionus* in Europe, where specimens are now living in the Zoological Gardens, and in Mr. Cross's menagerie, London, and at the Garden of Plants in Paris.

Besides the difference of habitat, there are two points which require to be settled before the identity of the Kiang with the Wild Ass of Cutch can be satisfactorily made out. The first relates to the nature of the voice ; the second to the presence or absence of Zebra-stripes.

First with regard to the voice, the Kiang neighs like a horse, the wild ass of Cutch brays like an ass. 2nd. There are no Zebra-stripes in the Kiang, neither in the adult nor in the foal. In the wild ass of Cutch, transverse Zebra-stripes are seen on the shoulder in the adult, and still more in the foal. Sometimes also the shoulder-cross has been seen. In a live specimen at Mr. Cross's there was a cross-band at the shoulder 4 inches long on each side.—*Nouvelles Annales du Museum*, Vol. 4, p. 117.

The habitat of the Kiang is on the high table-land of Tibet, that of the wild ass of Cutch in the sultry plains near the mouth of the Indus.

Mr. Hodgson has described the Kiang as a new species under the name of *Equus polyodon*. The anterior premolar, however, upon which Mr. H. bases his new species, is found not unfrequently in the common horse, and may be seen in two of the five specimens of the head of that animal in the Museum of the Asiatic Society ; whilst in the specimen of the Kiang in the same Museum, the anterior premolar does not exist, nor is there any trace of it. This evidence appears conclusive that the Kiang is not a new species.

II. WALKER.

Notes on the Nidification of Indian Birds.—By Capt. THOMAS HUTTON, F. G. S. (Communicated by E. BLYTH, Esq.)

Captain Tickell having made a praiseworthy beginning, in the April number of the Journal of the Asiatic Society for 1848, to dispel the darkness that has hitherto hung over our knowledge of this portion of the history of the Birds of India, I have thought it advisable, being in possession of a few facts bearing on the subject, to follow in the path he has so well pointed out.

No. 1.—“*Haliæetus Macei*, Cuv.

I notice this species because Captain Tickell has remarked that it “never makes the slightest attempt at defending its nest,—a striking contrast to the marvellous tales we read of, concerning the Golden Eagle in the Highlands of Scotland, &c.!” This remark is correct only so long as there are eggs in the nest, for no sooner are these hatched than the temper of the bird becomes wholly changed, and it will then defend its young with fierceness and determination. The nests I have repeatedly found and robbed, both on the banks of the Ganges and of the Sutledge, and in all cases where they contained only eggs, not the least show of resistance was made,—the old birds either sailing away with a loud querulous cry,—or sullenly remaining on an adjacent tree watching the robbery that was going on. On one occasion, however, I met with a very different reception, when my servant was attacked with an unexpected ferocity from which nothing but my gun could have saved him. The circumstance occurred in January 1832, when on my way up the country. The nest was placed near the summit of a tree growing on one of the Colgong rocks in the middle of the Ganges, and contained two half-fledged young ones. The old birds offered a most determined resistance, and without the aid of fire-arms we should decidedly have been defeated, as they dashed fiercely and fearlessly at the man in the tree, who prayed hard to be allowed to descend, and was only kept at his post by the promise of reward and fear of the cudgel. At first we had to contend with the female only, but after one or two rapid stoops and dashes at the robber’s head, which he avoided by bobbing under the nest,—finding she could make no impression, she suddenly uttered a shrill cry, which was responded to in the distance, and in an instant after, her mate was seen swiftly

gliding to her aid from the opposite bank of the river. The two then charged together towards the nest with the rage and fierceness of despair, and so terrified the man in the tree, hampered as he was with the young ones, that had I not fired at and wounded the Eagles as they advanced, they would assuredly have hurled him into the river. In this manner however, after repeated attempts to come to the rescue, we managed at last to drive them off, and secure the booty. At the end of 5 weeks the young ones exhibited as nearly as possible the plumage of the bird figured by Hardwicke and Gray as "*H. lineatus*."*

No. 2.—["*Ephialtes scops*," (L.) :

E. spilocephalus, Blyth, (a large specimen in immature plumage).

Scops pennata, Hodgson (grey variety) :

Sc. sunia, Hodgson (rufous variety.)].

This species occurs on the Himalaya in the neighbourhood of Mussooree, at an elevation of about 5,000 feet, and nidicates in hollow trees, laying 3 pure white eggs, of a rounded form, on the rotten wood, without any preparation of a nest. Diameter of egg $1\frac{3}{16} \times 1$ ins. The nest was found on the 19th March.

In the 169th number of the J. A. S. for 1846, Mr. Blyth has named and described this species as "*Ephialtes spilocephalus*," giving "*Noctua auribarbis*" and "*Athene badia*" of Hodgson, as doubtful synonyms.† In plumage and aigrettes the bird is to all appearance a *Scops* or *Ephialtes*,—but the wing is that of *Noctua* or *Athene*, having the 4th and 5th feathers longest—whereas in *Scops*, as laid down by Mr. Hodgson in J. A. S. No. 65 of 1837,—the 3d and 4th are longest. Mr. Gray, in his Catalogue of the collection presented by Mr. Hodgson to the British Museum, gives "*N. auribarbis*" of that naturalist as a synonyme of "*Athene cuculoides*" of Vigors,—but it seems scarcely probable that Mr. Hodgson would have placed his "*auribarbis*"

* Mr. G. R. Gray, in his Catalogue of Mr. Hodgson's specimens presented to the British museum, erroneously gives *H. lineatus* as a synonyme of the common Kite of India : but the Kites are closely allied to the *Haliæti*, and immediately connected with them by the interposition of *Haliastur*. The ferocity of the Indian Kite when it has young in its nest must have been remarked by most residents in this country.—E. B.

† *Noctua auribarbis*, Hodgson, is now referred by Mr. G. R. Gray (as mentioned above) to *Athene cuculoides*, and *Ath. badia* doubtfully as the young of *Ath. Brediei*.—E. B.

in the genus "*Noctua*," if the characters of the wing rendered it improper so to place it. Had such however been the case, the necessity for coining a new *specific* name is not apparent. This handsome little species appears to agree neither with *Scops* nor *Athene*,—for while the wing belongs to the latter genus,—the plumage, aigrettes and nude feet refer it to the former. It would now seem however that neither *Scops* nor *Ephialtes* can stand for a genus of Owls,—the first being otherwise employed in Ornithology,—while the latter is a genus in Entomology instituted by Gravenhorst. (Vide Nat. Lib. Introd. Entom.) It is therefore necessary to form a genus for these Owls.

No. 3.—"*Athene Brodiei*." (Burton).

This pretty little species is exceedingly common in the Himalayas in the neighbourhood of Mussooree and Simla, and may be heard at nightfall uttering its monotonous but not unmusical whistle of two notes oft times repeated. Like the last, it nidificates in hollow trees without any preparation of a nest. On the 11th May, I found 3 young ones and an egg just ready to hatch in a hole of a wild Cherry tree. The egg was nearly round and pure white, but being broken I could take no measurement of it. The young ones were clothed in a soft and pure white down.

In both these instances, namely, "*A. nudipes*" and "*A. Brodiei*," the old females remained in the holes while we cut into the trees, and allowed themselves to be captured.

No. 4.—"*Caprimulgus albonotatus*," Tickell.

C. nipalensis, Hodgson, (Gray's Zool. Misc.)

Of this species, which is a summer visitor at Mussooree, Captain Tickell says, the eggs are—"fleshy clay colour, sprinkled with patches of darker brownish red; female, paler and redder." I took 2 eggs of this bird at an elevation of 5000 feet, on the 19th April, from the bare ground beneath bushes on the side of a hill, the colour being a rich cream white with darker blotches of reddish brown or clay colour. Of one the diameter was $1\frac{1}{4} \times \frac{7}{8}$ inches; the other was somewhat smaller.

No. 5.—"*Garrulus lanceolatus*," Vigors.

G. gularis et *G. Vigorsii*. (Gray's Ill. Ind. Zool.)

This is one of the commonest birds in the Hills, usually appearing, except in the breeding season, in small parties of 5 or 6, most probably

comprising a family. It breeds in May and June, placing the nest sometimes on the branch of a tall oak tree (*Quereus incana*); at other times in a thick bush. It is composed of a foundation of twigs, and lined with fine roots of grass, &c., mixed with the long black fibres of ferns and mosses which hang upon the forest trees, and have much the appearance of black horse hair; the nest is cup-shaped, rather shallow, loosely put together, circular and about $4\frac{1}{2}$ inches in diameter. The eggs are sometimes 3, sometimes 4 in number, of a greenish stone-grey, freckled chiefly at the larger end with dusky,—and a few black hair-like streaks, which are not always present; they vary also in the amount of dusky freckling at the large end. Shape ordinary. The nestling bird is devoid of the lanceolate markings on the throat, and in this stage is the "*Garrulus Vigorsii*" of Hardwicke and Gray.—"*Bun-sar-rah*," of hillmen.

No. 6.—*Garrulax albogularis*, (Gould.)

Cinelosoma albigula, Hodgson.

Is very common at Mussooree at all seasons, and appears in large flocks of several families united. It breeds in April and May,—placing the nest in the forks of young oaks and other trees, about 7 to 8 feet from the ground, though sometimes higher, and fastening the sides of it firmly to the supporting twigs by tendrils of climbing plants. It is sometimes composed externally almost entirely of such woody tendrils, intermixed with a few other twigs, and lined with the black hair-like fibres of mosses and lichens; at other times it is externally composed of coarse dry grasses, and leaves of different kinds of Orchis, and lined with fibres,—the materials varying with the locality. Unlike the eggs of *Crateropus*, which are stated to be white,—in this species they are of a deep and beautiful green, shining as if recently varnished, and 3 in number. In shape they taper somewhat suddenly to the smaller end, which may almost be termed obtusely pointed; the diameter $1\frac{3}{16} \times 1\frac{1}{6}$ inches. The usual number of eggs is three, though they vary sometimes to one or two,—but only on one occasion out of more than a dozen, have I found four eggs. The old bird will remain on the nest until almost within reach of the hand.

No. 7.—"*Trochalopteron ? rufigularis*. (Gray's Catalogue.)

Crateropus rufimentum, (Hodgson.)

This species differs from the last in not congregating into large and

noisy flocks, but appearing usually, according to my observation, in pairs. It breeds in May, in which month I took a nest at about 6,500 feet, in a retired and wooded glen; it was composed of small twigs externally, and lined with the fine black fibres of lichens, like the preceding. The nest was placed on a horizontal bough about 7 feet from the ground, and contained 3 *pure white eggs*. Diameter $1\frac{2}{16} \times \frac{11}{16}$; and shape ordinary. The stomach of the old bird contained sand, seeds and the remains of wasps.

No. 8.—“*Trochalopteron? setifer*, (Hodgson and Gray, Zool. Misc.)

Cinclosoma setifer, Hodgson.

C. lineatum, Vigors?

If the colour of the eggs affords any generic character, this and the foregoing species cannot well rank together, for while in that the eggs are *pure white*, as in *Crateropus*, in this they are *pale greenish blue* (like those of “*Acridotheres tristis*.”)* The nest is loosely and rather slovenly constructed of coarse dry grasses and stalks externally, lined sometimes with fine grass,—sometimes with fine roots. It is placed near the ground in the midst of some thick low bush,—or on the side of a bank amidst overhanging coarse grass, and not unfrequently in exposed and well frequented places. The eggs are 3 in number, and in shape and size exceedingly variable, being sometimes of an ordinary oval—at others nearly round. Diameter varying,— $1\frac{2}{16} \times \frac{13}{16}$;—or $1 \text{ inch} \times \frac{11}{16}$; or $\frac{14}{16} \times \frac{11}{16}$. The most usual measurement however is the second one, or $1 \text{ inch} \times \frac{11}{16}$ inches.

In these three species, which have sometimes been placed in *Cinclosoma*,—sometimes in *Garrulax*,—and again in *Crateropus*,—there are several points both of similarity and dissimilarity, in their habits and manners.

In the number of eggs they agree, and there is a general similitude in the construction of the nest, more so between the two first—less so between them and the last;—in the colour of the eggs they all differ very materially; the first congregates into large and noisy flocks,—turning up the dead leaves and screaming and chattering together in most discordant concert. The second is most usually in pairs—sometimes in a family of 4 or 5;—the last in pairs or family of 4 or 5, and to be seen under every bush. Its mode of flight and its note are totally unlike the other two. Any one observing the birds in their native

* So in *Ruticilla phœnicurus* the eggs are blue; in *R. tithys*, white.—E. B.

haunts, could not fail to perceive that *G. albogularis* and *G. leucolophus* are allied in manners, voice and habits ;—that *G. rufigularis*, *G. erythrocephalus* and *G. variegatus* are likewise allied,—and that *Trochilopteron setifer vel lineatum* stands distinct from all ; the three forming distinct sections of the same group.*

No. 9.—“*Acridotheres griseus*,” (Horsfield.)

Maina cristalloides, Hodgson.

This is a summer visitor in the hills, and is common at Mussooree during that season, but it does not appear to visit Simla, although it is to be found in some of the valleys below it to the south. It breeds at Mussooree in May and June, selecting holes in the forest trees, generally large oaks, which it lines with dry grass and feathers ;—the eggs are from 3 to 5, of a *pale greenish blue* ; shape ordinary, but somewhat inclined to taper to the smaller end ;—diameter $1\frac{3}{16} \times \frac{1}{16}$ inches ; or $1\frac{2}{16} \times \frac{1}{16}$ inches. This species usually arrives from the valley of the Doon about the middle of March ; and until they begin to sit on their eggs, they congregate every evening into small flocks and roost together in trees near houses ; in the morning they separate for the day into pairs and proceed with the building of nests or laying of eggs. After the young are hatched and well able to fly, all betake themselves to the Doon in July.

No. 10.—“*Acridotheres tristis*,” (Linn.?)

This too is a summer visitor in the hills, arriving with the preceding species. The colour and number of eggs are also the same. It is curious however to observe that while Mr. Blyth and Captain Tickell state, that it builds in “out-houses, verandas and trees,” in which last, according to the latter gentleman, the nest is composed of “twigs and grass within,”—with us in the mountains its habits are precisely those of *A. griseus*, and as with it, the *hole* of a tree is selected and lined with dry grass and feathers ;—on no occasion have I ever seen a nest made on the branches of a tree, and only once in any place except the hollows of large oaks ; the exception being in the chimney of my house, which the stupid bird had evidently mistaken for a hollow tree, and seemed to be amazed that all the grass and feathers dropped into it invariably fell to the bottom ; at last it contrived to place some grass

* The difficulty is to class such species as *cærulatus*, *ruficollis*, and others of intermediate character. My *imbricatus* would rank with *lineatus*, and numerous species in Capt. Hutton’s second group.—E. B.

on a projecting brick. Can this difference betoken a distinction in species? I am inclined to believe it—for why in the *plains* should a nest be constructed among the open branches of trees,*—while in the mountains it is constructed within their hollow trunks? If distinct, it will, I imagine, bear Mr. Hodgson's ill-constructed name of "*A. tristoides*."†

No. 11.—"*Corvus culminatus*," Sykes.

[*C. orientalis*, Eversmann].

Occurs at Mussooree throughout the year, and is very destructive to young fowls and pigeons; it breeds in May and June, and selects a tall tree, near a house or village, on which to build its nest, which is composed externally of dried sticks and twigs, and lined with grass and hair, which latter material it will pick from the backs of horses and cows,—or from skins of animals laid out to dry. I have had skins of the *Surrów* (*Næmorhædus thar*) nearly destroyed from their depredations. The eggs are 3 or 4 in number and of a dull green, thickly spotted over with long and sometimes confluent spots and dashes of dusky brown or blackish. Diameter $1\frac{9}{16} \times 1$ inch.

No. 12.—"*Saroglossa spiloptera*," Hodgson.

Lamprotornis spilopterus, Vigors.

This species arrives in the hills about the middle of April, in small parties of 5 or 6, but it does not appear to ascend above 5,500 to 6,000 feet, and is therefore more properly an inhabitant of the warm valleys. I do not remember seeing it at Mussooree, which is 6,500 to 7,000 feet,—although at 5,200 feet on the same range, it is abundant during summer. Its note and flight are very much those of the Starling (*Sturnus vulgaris*), and it delights to take a short and rapid flight and return twittering to perch on the very summit of the forest trees; I have never seen it on the ground, and its food appears to consist of berries. Like our two species of *Acridotheres*, it nidificates in the holes of trees, lining the cavity with bits of leaves, cut by itself; the eggs are usually 3, or sometimes 4 or 5, of a delicate *pale sea green*, speckled with

* Has Captain Tickell recorded this on his own personal knowledge,—or from information furnished by the natives? If the latter, I suspect Captain T. has been deceived.

† Mr. Hodgson's specimens marked *tristoides* are specifically undistinguishable from those of the plains. In those from Ceylon the general colouring is invariably deeper, but there is no other difference.—E. B.

blood-like stains, which sometimes tend to form a ring near the larger end—shape oval, somewhat tapering ; diameter $1\frac{1}{8} \times \frac{1}{16}$ inches.

No. 13.—“*Pomatorhinus erythrogenys*,” Vigors.

P. ferrugilatus, Hodgson.

Common from 3,500 feet up to 10,000 or 12,000 feet ; always in pairs, turning up the dead leaves on copse-wood covered banks, uttering a loud whistle, answering and calling each other. It breeds in April, constructing its nest on the ground, of coarse dry grasses and leaf stalks of walnut trees, &c. ; covered with a dome-shaped roof so nicely blended with the fallen leaves and withered grasses among which it is placed as to be almost undistinguishable from them. The eggs are 3 in number and *pure white* ; diameter $1\frac{2}{16} \times \frac{1}{16}$ inches, of an ordinary oval shape. When disturbed the bird sprang along the ground with long bounding hops so quickly, that from its motions and the appearance of the nest, I was led to believe it a species of Rat. The nest is placed in a slight hollow, probably formed by the bird itself.

No. 14.—“*Pycnonotus leucogenys*,” Gray.

Ixos leucogenys, Hodgson & Gray.

Brachypus leucogenys, (Hardw., Gray. Ill.

Ind. Zool.

Common in the Doon all the year, and in the hills during the summer. It breeds in April and May. The nest is neat and cup-shaped, placed in the forks of bushes or pollard trees, and is composed externally of the dried stalks of “Forget-me-not,”—lined with fine grass-stalks ; eggs 3 or 4, *rosy or faint purplish white*, thickly sprinkled with specks and spots of darker rufescent *purple or claret colour* ; diameter $\frac{1}{16} \times \frac{1}{16}$ inches ;—diameter of nest $2\frac{1}{2}$ inches and $1\frac{1}{2}$ inch deep. Sometimes the outside of the nest is composed of fine dried stalks of woody plants, whose roughness causes them to adhere together.

No. 15.—“*Hypsipetes psaroides*,” Vigors.

Exceedingly common at Mussooree in large flocks during the winter and spring. In the latter season, when the *Rhododendron arboreum* is covered with its bunches of deep crimson flowers, these birds may be seen thrusting their beaks into every flower in search of insects and nectar, and the forehead is in consequence then generally covered with the pollen and sweets derived from the flowers. It pairs in April and appears fond of the wild mulberries and other forest berries which

then abound in some of the glens. In March, at an elevation of 5000 feet, I saw them feeding on the wild cherries. They breed during April, May and June, making a rather neat cup-shaped nest, which is usually placed in the bifurcation of a horizontal branch of some tall tree;—the bottom of it is composed of thin dead leaves and dried grasses, and the sides of fine woody stalks of plants, such as those used by *Pycnonotus leucogenys*, and they are well plastered over externally with spiders' webs; the lining is sometimes of very fine tendrils, at other times of dry grasses, fibrous lichens and thin shavings of the bark of trees, left by the wood-cutters. I have one nest, however, which is externally formed of green moss with a few dry stalks, and the spiders' webs instead of being plastered all over the outside, are merely used to bind the nest to the small branches among which it is placed. The lining is of bark shavings, dry grasses, black fibrous lichens and a few fine seed stalks of grasses. The diameter of the nest is $2\frac{3}{4}$ inches; and $1\frac{1}{2}$ inch deep. The eggs are usually 3 in number, of a rosy or purplish white sprinkled over rather numerous with deep claret or rufescent-purple specks and spots. In colours and distribution of spots there is great variation,—sometimes the rufous and sometimes the purple spots prevailing;—sometimes the spots are mere specks and freckles,—sometimes large and forming blotches;—in some the spots are wide apart,—in others they are nearly and sometimes in places quite confluent; while from one nest the eggs were *white*, with widely dispersed dark purple spots, and dull indistinct ones appearing under the shell. In all, the spots are more crowded at the larger end. Diameter varying from $1 \times \frac{1}{16}$ inches, to $1\frac{1}{16} \times \frac{1}{16}$ inches. "*Bunbukri*" of hill-men, from a fancied resemblance of one of its cries to that of a goat.

No. 16.—"*Treron sphenurus*," (Vigors.)

Vinago sphenura, Vigors.

Ptilonopus macronotus et turturoides. (Hodg., Gray.)

Treron cantillans, Blyth, (the caged bird, moulted in confinement.)

This species, which is the "*Kookla*" of the natives, arrives in the neighbourhood of Mussooree in the beginning of April, and remains during the summer to breed; it is usually silent during the height of the monsoon, but may occasionally be heard on a bright day. It is

probable that it migrates to the eastward on leaving Mussooree, as it does not winter in the Doon, nor does it occur there even in summer, being apparently a true hill species. In confinement it looses or does not put on the maronne mantle which ornaments the wild bird, and the plumage assumes a dull greenish-ashy hue, in which state it is the *T. cantillans* of Mr. Blyth.* The nest is composed of dried twigs, and the eggs are usually 2 in number and pure white, and more gracefully ovate than those of *Turtur risorius*. Diameter $1\frac{2}{16} \times \frac{1}{16}$ inches. The breeding season is from the end of April till the latter end of June; the nest a slight platform, usually placed in high forest trees. In October they collect into small flocks of 6 or 8, and quit the neighbourhood of Mussooree;—where do they then go to? The female differs from the male in the absence of the fulvous colour of the top of the head and breast, and in wanting the beautiful maronne colour on the mantle and lesser wing-coverts; the greater wing-coverts are also more broadly edged with pale yellow. I observe that Mr. Blyth states of this species that it is distinguishable from *T. nipalensis*, (Hodgson,) “by having but a slight pale yellow margin to only the great coverts of the wing;” whereas in both male and female, the great coverts, tertiaries, and primaries are edged with that colour, although on the latter it amounts to a mere thread. These birds are very fond of the wild mulberries and other forest fruits. Gould, in his ‘Century of Birds,’ appears to think the species is only found far within the mountains, whereas it occurs on the outer or southernmost range overhanging the Doon, from an elevation of 4,000 feet, probably to the snows. The Huryal, or *T. phænicopterus*, lays a similar egg, but is confined to the plains, ranging up to the base of the mountains but never ascending them.

No. 17.—“*Turtur risorius*,” Selby.

Columba risoria, Linn.

T. douraca, Hodg., Gray.

This is common in the Doon at all seasons, but only visits Mussooree during summer, arriving on the hills about the end of March and returning to the plains in October. It breeds in April, May and June, making a loose platform nest of dried twigs, with a few roots within; the eggs are 2 in number and pure white; diameter $1\frac{3}{16} \times \frac{1}{16}$ inches.

* In the bird described by me as *Tr. cantillans*, the maronne colour is retained, and the green replaced by pearl-grey. I now believe, however, with Capt. Hutton, that it is a cage variety of *Tr. sphenurus*.—E. B.

No. 18.—“*Turtur orientalis*,” (Latham.)

Columba meena, Sykes.

C. agricola, Tickell.

C. pulchrala, Hodg.

C. ferrago, Eversmann.

This also is a mere summer visitor at Mussooree, where it arrives early in April, when every wood resounds with its deep-toned cooing ;—it is not found lower than 6,000 feet with us,—and departs in October. At Mussooree it breeds in May, making a platform nest on tall forest trees ; the eggs are 2 and pure white ;—diameter $1\frac{4}{16} \times \frac{1}{16}$ inches.

No. 19.—“*Turtur suratensis*,” (Gm.)

T. vitticollis, Hodg.

Columba tigrina, Temm.

Abundant in the Doon, and arrives in the hills in the end of March, leaving again in the autumn. It breeds at about 5,000 feet—and lays 2 white eggs,—diameter 1 inch $\times \frac{1}{16}$. Captain Tickell says, “eggs 2 to 6 ;” I have never seen more than 2 in any nest.

No. 20.—*Turtur senegalensis*, (Linn.)

C. cambaiensis, Gm.

Arrives at 5,000 feet like the others, about March or April, departing again in Autumn ;—its eggs are 2, and pure white ;—diameter 1 inch $\times \frac{1}{16}$; I have observed in this, as well as in the foregoing different species of *Turtur*, a tendency in the eggs to become suddenly pointed, or slightly nipple-shaped.

(To be continued.)

Verification of the Itinerary of the Chinese Pilgrim, HWAN THSANG, through Afghanistan and India, during the first half of the seventh century of the Christian Era. By ALEX. CUNNINGHAM, Capt. Engineers.

The numbers are those of M. Landresse, the Editor of the FOE-KUE-KI, which I retain for the purpose of easy reference. Where not otherwise specified the distances and bearings of the modern places agree with those of Hwán Thsáng. The identifications of Landresse and Lassen have their names attached to them. The other identifications have

been made by myself. My remarks are separated from the text by brackets.

No. 5—CHE-SHI or SHI, situated on the river YE. (*Tashkand* or *Shásh*, on the Sihún or Jaxartes—Landresse.)

Thence at 1000 *li* (166 miles) to the S. E.

No. 6—PU-KAN, to the East of the river YE. (*Khvákand*, خواقند or *Kokán*.)

Thence at 1000 *li* (166 miles) to the W.

No. 7—SU-TU-LI-SE-NA, to the eastward of the river YE. (*Satrustah*, ستروسته, of Ibn Haukal. Landresse gives Osrushna, اسروشنة, which is the reading of Abulfeda, of Násér-ud-din Tusi, and of Ulugh Beg.) To the north-west is the great sandy desert. (This is of course the sandy waste now called *Kizil-Kum*.)

Thence at 500 *li* (83 miles.)

No. 8—SO-MO-KIAN, KHANG-KIU or KHANG—(*Samarkand*—Landresse.)

No. 9—MI-MO-HO, (*Maimorgh*,—Landresse. This place is perhaps the *Indikomordana* of Ptolemy.)

Thence to the N.

No. 10—KIEI-PU-TAN-NA or TSAO. (Probably *Kohistan*, the *Kilah Kavkán*, كاكان, of Ibn Haukal, one day's journey beyond Derbend, on the road from *Chagánián*. It seems to answer to the position of the rock of *Chorienes*.)

Thence at 300 *li* (50 miles) to the W.

No. 11—KIU-SHWANG-NI-KIA or KUEI-SHWANG-NO. (*Kesh* or *Shehr-i-Sabz*. This town no doubt took its name from the *Kuei-shang* tribe of Yu-chi, as noticed by me some years ago in an article on the monograms found upon the Ariano-Grecian coins, which was published in the 8th volume of the Numismatic Chronicle of London.)

Thence at 200 *li* (33 miles) to the W.

No. 12—KO-HAN, TUNG-AN—(Perhaps *Karshi*, or some place to the northward of it.)

Thence at 400 *li* (66 miles) to the W.

No. 13—PU-HO, CHUNG-AN. (*Bokhára*—Landresse.)

Thence at 400 *li* (66 miles) to the W.

No. 14—FA-TI, SI-AN. (This I believe to be an old name for the ferry of Char-juí on the Oxus.)

Thence at 500 *li* (83 miles) to the S. W.

No. 15—HO-LI-SI-MI-KIA or HO-TSIU. (Perhaps *Alasadda Marvi*, or *Alexandria Margiané*, the modern *Merv*.)

From SO-MO-KIAN, at 300 *li* (50 miles) to the S. W.

No. 16—KO-SHWANG-NA (*Kesh*, as already noticed in No. 11.) At 300 *li* (50 miles) to the S. E. was the Iron Gate. (This is the well known *Derbend-i-Ahina*, commonly called *Kolugha*; a proof of the correctness of the identification of *Kesh*.)

No. 17—TU-HO-LO, (*Tochari* of Ptolemy,—Landresse.) To the north of the Oxus and to the south of the Iron Gate. (It therefore corresponds exactly with the *Tokhárestan* of the Musalmán Geographers.)

Below TU-HO-LO lies

No. 18—TAN-MI, on the north of the FU-SSE-SU. (*Termed* to the north of the *Waksh-su*, or Oxus river.)

Thence to the E.

No. 19—CHHI-AO-YAN-NA. (*Chagáníán*.)

Thence to the E.

No. 20—HU-LU-MO. (Perhaps the *Hamurán*, *هـموران*, of Edrisi, 30 miles to the eastward of Saganian.)

Thence to the E.

No. 21—IU-MAN, which stretches to the Oxus on the S. W. (This must be the *Shumán* or *Nomán* of Ibn Haukal, the *Shumán* of Abulfeda, and the *Sumán* of Edrisi, which was 93 miles to the eastward of *Hamurán*.)

Thence to

No. 22—KIU-HO-YAN-NA. (Perhaps the *Andián* of Edrisi and the *Ahubán* of Ibn Haukal.)

Thence to the E.

No. 23—HU-SHA. (The district of *Waksh* of the Mahomedan Geographers.)

Thence to

No. 24—KO-TU-LO. (The well known district of *Khutlán* on the northern bank of the Upper Oxus.)

Thence to.

No. 25—KIU-MI-THO, the mountains of TSUNG-LING, and to the S. W. the river FA-TSU. (These are clearly the *Vallis Komedorum*, and the *Komedæ Montes* of Ptolemy, with the river Oxus to the S. W.)

(As the other names mentioned in this paragraph occur again, they are here omitted.)

To the S. W.

No. 26—FO-KIA-LANG. (*Baghalán*, to the W. N. W. of Anderáb).
Thence to the S.

No. 27—K1-LU-SI-MIN-KIAN. (Perhaps *Khinjan*, to the W. of Anderáb.)

Thence to the N. W.

No. 28—HU-PIN. (Probably *Mazar* near Balkh.)

Thence to the W.

No. 29—FO-KO, bounded by the river FA-TSU to the N. (Undoubt-
edly *Baktra* or *Balkh*, and not *Badakshán* as supposed by Landresse-
Badakshán is called PO-THO-TSANG-NA.)

Thence towards the snowy mountains.

No. 30—YUEI-MI-THO. (Perhaps *Maimuna*, the *Fehudiah* of Edrisi,
and the ΕΥΘΥΣΜΟΥ ΑΝΑΣΣΑ of Ptolemy, for which I propose to read
ΕΥΘΥΔΗΜΟΥ ΑΝΑΣΣΑ.)

To the S. W.

No. 31—HU-SHI-KIAN. (*Kushk*, to the north of Herát, the *Kasiké*
of Ptolemy.)

Thence to the N. W.

No. 32—TA-LA-KIAN. (*Tálikán*.—If the last identification is correct,
the bearing should be N. E. ; as according to Edrisi, Tálekán stood upon
the high road leading from Merv to Balkh. Landresse has identified
this with the lesser Talikan, to the eastward of Balkh, a mistake into
which he was led by identifying FO-KO with *Badakshán*, but Hwán
Thsáng particularly notices that TA-LA-KIAN stretched to PHO-LO-SSE
or *Persia*, on the westward.)

From FO-KO, at 100 *li* (16 miles) to the S.

No. 33—KO-CHI. (There is no map of the Balkh river in existence ;
this place therefore cannot be identified.)

Thence to the S. E. towards the snowy mountains.

No. 34—FAN-YAN-NA. (*Bámián*,—Landresse.)

Thence to the E. over a snowy chain and the black mountains.

No. 35—KIA-PI-SHE, at the foot of the mountains of TSUNG-LING.
(Lassen has identified this with the *Kapisa* of Ptolemy, and the *Capissa*
of Pliny, which I further identify with the *Caphusa* of Solinus, and

with the *Kafshún*, كفشان, or *Kushán*, كوشان, of the present day.) To the S. of the town, at 40 *li* (nearly 7 miles) was the town of SI-PI-TO-FA-LASSE (in Sanskrit, *Sweta-varsha*, the “white district,” perhaps the modern Ghorband, from the Sanskrit *gaura-varṭta*, or “white region.”) Thence at 30 *li* (5 miles) to the S. mount A-LU-NAO, (in Sanskrit, *Aruna*, “dark red.”) To the N. W. of the capital, at 200 *li* (33 miles) are the great snowy mountains (the Hindu Kush) and to the S. W. of the same is mount PI-LO-SO-LO, “firm as an Elephant,” (in Sanskrit, *pilu*, an elephant, and *sāra*, strength.) To the south of Kushán there is a small isolated hill, in Walker’s map, which is probably the mountain here mentioned.) Thence to the E. at 600 *li* (100 miles) over the difficult passes of the Black mountains, is the frontier of northern India, and

No. 36—LAM-PHO. *Lamghan*, Lassen—the district of Ptolemy’s *Lambatæ*.

Thence to the S. E. at 100 *li* (17 miles) across a mountain range and a great river,

No. 37—NA-KO-LO-HO, surrounded on all sides by hills, and possessing some lofty topes built by Asoka. (*Nangrihar*, the *Nagara* or *Dionysopolis* of Ptolemy, and the *Nysa* of Alexander’s historians; most probably *Begrām* near Jallálabád. It is the NA-KIE of Fa-Hian, close to which was HI-LO, the present *Hidda*, where Masson opened several topes. The name of *Dionysopolis* was still existing at the time of Mahmud Ghaznavi’s invasion; for Al Biruni mentions the town of *Dinus* or *Dinuz*, as being situated about midway between Kabul and Parashawar. I have a suspicion that the *Adinahpur* of Abul Fazl, Ayin Akbari, 2, 165, is only a Mahomedan alteration of the same name.)

Thence to the S. E. at 500 *li* (83 miles) across some mountains, to

No. 38—KIAN-TO-LO. *Gandhara*—Lassen. The capital is called PU-LU-SHA-PU-LO. (*Parasháwara*, the *Parsháwar* of Abu Rihán and Báber, and the modern *Pesháwar*, a name given by Akbar to denote a frontier town.) To the N. E. of the monastery of King KIA-NI-SI-KIA, (*Kanishka*) and across a large stream (the Kabul river) was the town of PU-SE-KO-LA-FA-TI. (In Sanskrit, *Pushkalávatī*, in Prakrit, *Pukkalaoti*, the original of the Greek Πευκελαωτις, as *Pukkala* was of the Greek Πευκελα. It corresponds to the modern *Hashtnagar* or *Hastinagara*, which perhaps derives its name from *Astes* or *Hasti*, the chief of *Peukelaotis* in the time of Alexander.) To the S. E. of this was the town

of PA-LU-SHA (perhaps the Niçetta of General Court's map,) from which to the N. E. at 50 *li* (8 or 9 miles) stood the temple of P1-MA, the wife of Iswara (*Bhimá*, one of the many names of Durga, the consort of Siva. The temple must have been close to the present Noshehra.) Thence to the S. E. at 150 *li* (25 miles) was the town of U-TO-KIA-HAN-CHA, resting on the Indus to the S. with the city of PHO-LO-THU-LO at 20 *li* (3 or 4 miles) to the N. W. (Taking the recorded distances and bearings from Noshetra, and from PHO-LO-THU-LO, the present ruins of *Partháwara* or *Bithor*, the position of U-TO-KIA-HAN-CHA, must be looked for in the neighbourhood of *Niláb*, which agrees with Hwáng Thsáng's measurements in two of the best maps, those of Walker and Mirza Mogal Beg. The present Attak was built by Akbar: and it is besides to the N. of the ruins of *Partháwara*, instead of to the S. E. The name is usually derived from *Attak*, prevention; and a silly story is added that it is so named because the Hindus are forbidden to cross the Indus. But the name of *Attak* belongs to the *town* and not to the *river*; and I believe that the word has a very different signification. If the original name really was derived from अथ, *artha*, prevention, it must have been given to the place from the *natural obstacle* which the rocks here present to the passage of the river. But a preferable derivation in my opinion would be from उत, *ut*, much, त्रि, *trri*, passing over, that is, the place of much passage, or in other words the "chief ferry." The Chinese syllables seem to point to *Uttak* and not to *Attak*, and I suggest the above as the most probable derivation of U-TO-KIA-HAN-CHA; for the modern name of Attok is, I believe, only one of Akbar's numerous alterations of names, manufactured to suit the frivolous meanings attached to them by Musalmáns.)

From thence to the N. across mountainss and rivers, at 600 *li* (100 miles)

No. 39—U-CHANG-NA, or "the Garden," capital MENG-HO-LI. (This has already been identified by Lassen with *Udyána* or *Ujjana*, which has the same signification. The position indicated agrees with the modern valley of *Swát*, of which the capital for many centuries past has been *Manglora*; no doubt the MENG-HO-LI of Hwán Thsang. This identification is rendered quite certain by the mention immediately afterwards that at 250 or 260 *li* (40 to 43 miles) to the N. E. of the capital, and on a high mountain, was situated the spring of A-PHO-LO-LO,

which was the source of the SU-PHO-FA-SU-TU, or Swát river, in Sanskrit *Subhavarastu*, which flows to the S. W. as stated by Hwán Thsáng.) To the S. of MENG-HO-LI, at 200 *li* (33 miles) was the great forest of MA-HA-FA-NA. (This is no doubt the high jungly hill now called *Mahávan*, in Sanskrit *Maha-vana*, around the end of which the Indus sweeps in the neighbourhood of Derbend. From Turee, the W. peak of this well known hill bears E. $71^{\circ} 30'$, and from Akora it bears E. $55^{\circ} 40'$.) To the W. of the capital, at 50 *li* (8 or 9 miles) and across the river, was a monastery built by Asoka, called LU-YI-TA-KIA, or “the red” (in Sanskrit *Lohitaka*.) To the N. E. at 30 *li* (5 miles) was the monastery of KO-PU-TO. Thence to the W. across the river there was a statue of A-FO-LU-CHI-TI-SHE-FA-LO-PHU-SA, (perhaps *Aparajiteswara Bodhisatwa*.) To the N. E. of MENG-HO-LI, over the mountains, and ascending the Indus, at 1000 *li* (166 miles) and over some suspension bridges, was the brook THA-LI-LO, where once stood the capital of *Udyána*. (Both distance and bearing point to the Dardu district of *Darél* on the Indus, to the south of Gilgit. The Chinese syllables are indeed only a literal transcript of *Darél*. Fa Hian calls it THO-LI.)

Thence to the E. over mountains, at 500 *li* (83 miles) to

No. 40—PO-LU-LO, amidst the snowy mountains. (In No. 134, this kingdom is said to be to the S. of PHO-MI-LO or *Pámer*, and to produce “much gold.” These two bearings from *Darél* and *Pámer* point to the kingdom of *Balti* or Little Tibet, which is still called *Palolo* by all classes of the Dardus. It is besides famed for its gold dust. As *Balti* likewise abounds in rock-crystal, the Persian بلور, *Bilor*, is probably derived from the name of this district; and the *Bolor* mountains may perhaps mean simply the “crystal mountains.” The name of *Bilor* is not however confined to Persian; for the Chinese know PHO-LI or *Bilor* as a synonyme of SE-PHO-TI-KIA, or *Sphaṭika*, स्फटिक, “rock crystal.”

From U-TO-KIA-HAN-CHA, across the Indus to the S. was

No. 41—TAN-CHA-SHI-LO, the boundary of India towards the north, and a dependency of Kashmir.—(This is the Sanskrit *Takshasila*, and Pali *Takkasila*, the *Taxila* of the Greeks, as noticed by Lassen.—It is undoubtedly the present *Manikyála*, which is surrounded by ruins. One of the neighbouring villages is still called *Takkála*, a name of the same import as *Takshasila*, and most of the coins now procurable at Ráwal-Pindi and in the neighbouring villages are brought from *Manikyála*.) To

the S. E. at 30 *li* (5 miles) was a monastery built by Asoka, called according to Fa Hian, CHU-SHA-SHI-LO, signifying "tete coupée," (in Sanskrit *Chutya-sira*, Remusat.)—The king was named CHEN-THA-LO-PO-LA-PHO, or "moonlight" (a literal transcript of the Sanskrit *Chandraprabha*.) To the S. E. of the town was a *Stupa* built by KEU-LANG-NU, the son of Asoka. (I take this name to be a Chinese rendering of *Kuloka*, which is a synonyme of *Jaloka*, the name of Asoka's son, who reigned over Kashmir. According to Wilford, one of Asoka's sons was named *Kuláta*, a name of precisely the same meaning as *Jaloka* and *Kuloka*. Fa Hian mentions only two topes at this place. 1st,—that of *Chutyasira*, where Buddha made an "offering of his head," beside which was a *Vihára* or monastery of the same name—2nd, that where Buddha made an "offering of his body" to a hungry tiger. The latter is probably that which is mentioned by Hwán Thsang as having been built by KEU-LANG-NU, the son of Asoka. There is no doubt however that it is the great Manikyála tope which was opened by General Ventura; for the small silver disc found in that tope bears a short inscription of only two lines, of which the upper line reads 𑖀𑖔𑖪𑖦 *Gomangasa*, in Sanskrit गेमङ्गस्य, "of the abandoned body," from गुण, *guṇa*, abandoning, and अङ्ग, *angga*, body. The great tope was therefore built upon the spot where Buddha "abandoned his body" to a hungry tiger (abandonné son corps à un tigre affamé).—The smaller tope opened by General Court also contained an inscription which mentions "*Kanishka, Maharāja of the Gushang* (tribe)."—It must therefore have been built either by him or during his reign.—It bears a date also, which I have not yet been able to read.)

Thence to the S. E. at 700 *li* (117 miles) across mountains (that is over the Salt range) to

No. 42—SENG-HO-PU-LO, a dependency of Kashmir, bounded on the west by the river Sindh or Indus. (Both distance and bearing bring us to the position of *Sanghela*, between the Chenáb and Rávi, which Wilford identified with the *Sangala* of Arrian. I could hear nothing of this place: but *Ságara* or *Jángala*, with a small natural *jhil*, or sheet of water, was well known.)

From TAN-CHA-SHI-LO, across the Sindh to the N. to some nameless place, to the S. E. of which at 200 *li* (33 miles) was a great stone gate, (probably Derbend, where the Indus breaks through the mountains.)

Here was a *Stupa* built by Asoka on the spot where Sakya had made an offering of his body. (Close to Derbend, at a place called Kabal, there are several topes.)

Thence to the S. E. amongst the mountains, at 500 *li* (83 miles) to

No. 43—U-LA-SHI, a dependency of Kashmir. To the S. W. of the capital, at 4 or 5 *li* (rather more than half a mile) was a stupa built by Asoka. (This is clearly the *Varsa regio* of Ptolemy, and the *Urasa* of the Rájá Taringini, a mountainous district where Sankara Varimma of Kashmir was killed by an arrow. It corresponds in position to the modern district of *Rash*, a part of Dhantáwar where there still exist two small topes, of which one is situated within a mile of Mángali, the former capital of the country. The people of *Urasa* or *Varsa*, with those of *Gilgit* or *Gilit* (as it is called by themselves) would appear to be joined together in Pliny's *Arsa-galitæ*, who are named as neighbours of the *Peukolaitæ*. Mirza Mogal 'Beg places a tribe of *Urasis* on the Upper Kunar River; and Lieut. Leach locates a clan of the same name at the head of the Alingar river.

Thence to the S. E. over mountains and iron bridges at 1000 *li* (166 miles) to

No. 44—KIA-SHE-MI-LO, *Kásmira*,—Landresse. The capital rests to the westward on a large river (the Vitasta or Behat) where are four *Stupas* built by Asoka. (This is the present capital called *Srinagara*). To the S. E. of the new town at 10 *li* ($1\frac{3}{4}$ miles) is the ancient town. (This is the present *Pándrethán*, a corruption of *Puránadhithána*, the "old capital," which is situated $1\frac{1}{2}$ miles to the S. E. of the Takht-i-Sulimán. The present town of Srinagara was built by Pravarasena between A. D. 432—462. It was therefore a new town at the period of Hwán Thsáng's visit. M. Troyer in his disquisition on the Kashmiriau Chronology (Raj. Tar. Vol. II. p. 420) asks whether the Asoka of Kashmir, is the same as Asoka Maurya, the grandson of Chandra Gupta, and afterwards declares his belief that they were *different persons*. But the accurate Chinese pilgrim in his notice of Kashmir distinctly mentions that one of its former rulers was *Asoka, king of Magadha*. In fact we know from existing inscriptions, engraved with an iron pen on the rock for ever at Dhauli in Katak (Cuttak), at Junagiri in Surashtra (Gujrat), and at Sháh-báz-garhi to the N. E. of Pesháwar, that the whole of India to the north of the Narbada, from the Indus to the mouths of

the Ganges, was tributary to Asoka Maurya, the Sophagasenas of the time of Antiochus the great; *Subhaga* being only a synonyme of *Asoka*.)

Thence to the S. W. across the mountains at 700 *li* (117 miles) to

No. 45—PAN-NU-CHA, a dependency of Kashmir. (This is not the Panjáb, as generally supposed; but *Panuch* or *Punach*, the *Punch* of the maps, a place which answers to the bearing and distance given by Hwán Thsang, and which was undoubtedly a dependency of Kashmir at the period of his visit.)

Thence to the S. E. at 400 *li* (67 miles) to

No. 46—KO-LO-CHE-PU-LO, also a dependency of Kashmir. (The distance and bearing point to the neighbourhood of *Rajaori*, on the Tohi river. The second and third syllables, LO-CHE, are a transcript of *Rája*, and the last two, PU-LO, are a transcript of *pura*. We thus have *Rajapura*, a name synonymous with *Rajáwara*, but I am unable to offer any explanation of the prefix Ko. *Rajáwar* was always a dependency of Kashmir).

Thence to the S. E. across the river at 700 *li* (117 miles) to

No. 47—THSE-KIA—to the E. of which was the river PI-PO-CHE, (the *Fipása* or *Byás*) and to the W. the river SIN-TU (the *Sindhu*, or Indus.) The distance and bearing bring us to the neighbourhood of Lahore and Amritsar. Now we know that the latter place was an old city named *Chek* before its selection as the head-quarters of the Sikh religion, and the excavation by Gurn Rám Dás of the *Anrita Saras* or “pool of nectar,” from which the place took its present name.) To the S. W. of the large city was the old town of CHE-KO-LO. (This answers both in name and in position to the *Sákala* of the Hindns and the *Sangala* of Arrian. The mention of a *Stupa* here built by Asoka proves that CHE-KO-LO was a place of note within 50 years after Alexander’s death.)

Thence to the E. at 500 *li* (83 miles) to

No. 48—CHI-NA-PU-TI, a place built by Chinese, where was the ancient domain of king KIA-NI-SSE-KIA. (The Chinese syllables appear to represent *Chinavati*, a place which still exists on the Chenáb river due W. from Amritsar about 90 miles. It is possible therefore that there is a mistake in the bearing of this place, “est” for “ouest.” The perfect agreement of the two names however—is almost too remarkable

for mere accident. If there should be no mistake in the bearing I would propose the capital of *Katoch* or *Katochin* as the representative of CHI-NA-PU-TI, and the fort of *Kangra* as the domain of Kanishka. In fact we know from Abu Rihán that Nagar-kot belonged to the descendants of Kanik or Kanishka; and it is possible that the name of *Kangra* may in this case be only a corruption of *Kanishka-garha*, or *Kanik-garha*. According to the Mogal author *Sanang-setsen*, *Kanika* was king of *Gachu* or *Gachi* (Foe-kue-ki, 248, N.); in which name I think I can recognize the *Katoch* or *Katochin* of the present day. *Jalandhara* is particularly mentioned as being in the kingdom of *Gachu*: and an inscription now existing in the city of *Kangra* calls the kingdom *Gachchhé-Raj*. Perhaps the *Gaj* river, which flows through the *Kangra* district, may also have a reference to the same name.)

To the S. E. of the great town (THSE-KIA) at 700 *li* (117 miles) was the monastery of THA-MO-SU-FA-NA, “forêt obscure.” (This is a transcript of the Sanskrit *tamasa-vana*, “dark jangal.” The distance and bearing bring us to the neighbourhood of Sultánpur and Dakhani Serai in the Jálándhar Doab; to the W. of which places the whole country is covered with a dense jangal.)

Thence to the N. E. at 140 or 150 *li* (23 to 25 miles) to

No. 49—CHE-LAN-THA-LO, formerly Brahmanical. (This is undoubtedly the well known city of *Jalandhara*, one of the oldest places in India. It is the *Ku* or *Zulindrine* of Ptolemy.)

Thence to the N. W. across precipitous mountains at 700 *li* (117 miles) to

No. 50—KHU-LU-TO, the boundary of India on the north, surrounded by mountains, and close to the snowy mountains. (Both distance and bearing point to the modern district of *Kulu* on the upper Byas river, which agrees precisely with Hwán Thsáng’s description, as the whole district is surrounded by mountains, and the ancient capital of Nagar or Makarsa is not more than 20 miles from the perpetual snow.)

Thence to the N. over the mountains at 2000 *li* (333 miles) was the kingdom of MO-LO-PHO or SAN-PHO-HO. (This is most probably the kingdom of Great Tibet on the *Sanpu* river: in which case the bearing should be *east* and not *north*. As Hwáng Thsáng does not appear to have visited this place the error in the direction is pardonable.)

From KHIU-LU-TO to the S. at 700 *li* (117 miles) across high mountains and a great river to

No. 51—SHE-TO-THU-LO, on the northern frontier of India. (This is a literal transcript of the Sanskrit *Satadru*, the *Zadadrus* of Ptolemy and the *Hesudrus* of Pliny. The bearing and distance point to the present *Lodiana* as the site of this town on the Sutlaj. *Lodiana* derives its name from the Afghan family of Lodi, which gave several sovereigns to Delhi : but in the *Rámáyana* I find that the ancient town of *Ilu-dha-na*, the patrimony of the race of Ikshwáka, was situated in this position. I believe therefore that *Lodiana* was only a complimentary alteration of an older name. SHE-TO-THU-LO may have been the name of the town ; but it seems more likely that it was only the name of the district lying along the *Satadru* or Sutlaj, as *Sindh* is the country on the *Sindhu* or Indus.

Thence to the S. E. at 800 *li* (133 miles) to

No. 52—PHO-LI-YE-THA-LO, on the frontier of central India. (The recorded bearing and distance bring us to *Delhi*, the ancient *Indraprastha*. The Chinese syllables represent the Sanskrit *Vriha-sthala*, a place which is named in the Mahabharata as one of the five towns demanded as the price of peace between the Kauravas and Pándavas. In the Mahabharata the names are *Aristhala*, *Vrihasthala*, &c. which in the Veni-Samhára are changed to *Indraprastha*, *Tiloprastha*, &c. It seems probable therefore that *Vrihasthala* is only another name for *Tilaprastha*, and *Aristhala* a synonyme of *Indraprastha*. Now *Tilaprastha* still exists as *Tilpat*, 6 miles to the S. E. of Toghkakabad, and 10 miles to the E. S. E. of the Kutb-Minár. I have a suspicion that the much disputed origin of the name of *Delhi* or *Dilli* lies in *Tiloprastha*. Sanskrit scholars refer the name to दिल्ली, *Dilipa*, a name which is symphonious with तिलप. As ancient Delhi undoubtedly extended over the hills about Toghkakabad, Tilprastha, if not the actual capital itself, must have formed one of the suburbs of the city. That this identification is correct is proved by the following bearing and distance.

Thence to the E, at 500 *li* (83 miles) to

No. 53—MOTHU-LO in Central India. (This is certainly *Mathura* as identified by M. Landresse. I believe that there are now no vestiges of the three *Stupas* built by Asoka.)

Thence to the N. E. at 500 *li* (83 miles) to

No. 54—SA-THA-NI-SHE-FA-LO. (This is undoubtedly the celebrated *Sthaneswara* or *Thanesar*, to the N. W. of Delhi. I believe it to be Ptolemy's *Batan-kaisara*, for which I propose to read *Satan-aisara*. It is now known as the *Kuru-kshetra* or "battle-field of the Kurus." The recorded bearing should have been N. W. instead of N. E. and the distance should have been somewhat greater.)

Thence to the N. E. at 400 *li* (66 miles) to

No. 55—SU-LU-KIN-NA, bounded to the E. by the Ganges, and to the N. by great mountains. To the E. of the capital is the river YAN-MEU-NA (*Yamuna* or *Jamna*,—Landresse) which flows through the kingdom. To the E. of the capital and to the W. of the Jamna was a *Stupa* built by Asoka. (This place would appear to be *Sulora* or *Sadhaora*, under the Siwálik hills to the westward of the Jamna, from whence Feroz Shah removed the well known pillar, now called Feroz Shah's *lât*, which bears an inscription of king Asoka.)

Across the river on the E. bank was

No. 56—MO-TI-PU-LO, the king of which was of the race of SHU-TO-LO (or *Sudra*). To the S. of the great town, at 4 or 5 *li* (about three quarters of a mile) stood the monastery of the patriarch K1A-NU-PO-LA-PHO, "lumiére de vertu," (in Sanskrit *Guṇa-prabha*); near which was the monastery of PI-MO-LO-MI-TO-LO, "ami sans tache," (in Sanskrit *Vimala-mitra*.) MO-TI-PU-LO would appear to be a literal transcript of *Motipura*, a very common name in India. From the position indicated by Hwán Thsáng this place must have been situated at or near the modern *Behat*, where Major Cautley excavated coins and relics of an ancient city at a depth of 17 feet below the present surface level of the country. The coins discovered there range from perhaps 200 B. C. to 400 or 500 A. D.

To the N. W. of this country, and on the E. bank of the Ganges, was the town of MO-IU-LO (*Máhila*) where rock crystal was found. It possessed a Bráhmanical temple and a holy reservoir on the Ganges, which the Indians called "la porte du Gange," (evidently *Haridwára* or Vishnu's portal, which is also called *Ganga-dwára*, or "Ganges portal." The mention that there was but one solitary Bráhmanical temple at this now priest-swarming place in A. D. 629—645, is highly interesting. I believe that *Haridwára* is a comparatively modern name;—as in the

Megha-duta, Kálidás mentions only *Kankhala*. May not Ptolemy's *Μαγγα* be *Γαγγα*, or *Ganga-dwara*?)

Thence to the N. at 300 *li* (50 miles) was

No. 57—PHO-LO-KI-MA-PU-LO, surrounded by mountains on all sides. (This would appear to be *Srinagara*, the capital of Garhwál. The Chinese name is perhaps intended for *Parakramapura*). To the N. of this principality, amongst the snowy mountains, was the kingdom of SU-FA-LA-NU-KIU-THA-LO, “famille d’or,” (evidently the Sanskrit *Suvarnagotra*) where excellent gold was found. (This is most probably the district about Toling and Garu between the Upper Satlaj and Upper Indus, celebrated for its gold dust, and now called *Urna-desa* or *Un-des*, “Wool-country;” which, as described by Hwán Thsang, has Tibet on the E. and Khoten on the N. The district of PAN-PHO-LO, on the W. is probably *Ladák* or *Mang-yul*.)

From MO-TI-PU-LO to the S. E. at 400 *li* (67 miles) was

No. 58—KIU-PI-SHWANG-NA, 2000 *li* (333 miles) in extent. (The distance and bearing point to the neighbourhood of *Bijnor* and the ruins of *Hastinapura*. I cannot even guess what may be the Sanskrit equivalent of the Chinese syllables: perhaps KIU-PI may be *Kripa*.)

Thence to the S. E. at 400 *li* (67 miles) to

No. 59—O-YI-CHI-THA-LO, 3000 *li* (500 miles) in extent, with a *Stupa* built by Asoka. (This name appears to be a transcript of the Sanskrit *Uchchasthala*, which is most likely the modern *Uchchagráma* or *Unchagaon*, called *Bulandshehr* by the Musalmáns. The bearing would however point to the neighbourhood of Anopshahr and Chandasi; but the coincidence of name is I think too strong to admit of much doubt as to the accuracy of my identification.

Thence to the S. at 260 or 270 *li* (43 to 45 miles) across the Ganges, and then to the S. W. to

No. 60—PI-LO-SAN-NU—2000 *li* (333 miles) in extent. Ruins of a *Stupa* built by Asoka. (According to the next mentioned bearing and distance from SENG-KIA-SHE, or *Samkissa*, this place must have been in the neighbourhood of *Karsána*, an old town near Khás-ganj. The Chinese syllables probably represent the Sanskrit *Pilusána* or “Elephant’s ear-flap,” which is a synonyme of *Karsána* or *Karisána*. It is curious that *kari* and *hastin*, names for an elephant, are derived from *Kara* (Greek *χαιρ*) and *hasta*, both names for the *hand*, as well as for an *elephant’s trunk*, on account of its being a handy member.

Thence to the S. E. at 200 *li* (33 miles) to

No. 61—K1EI-PI-THA, anciently SENG-KIA-SHE, 2000 *li* (333 miles) in extent. To the E. of the town at 20 *li* (about $3\frac{1}{4}$ miles) was a great *Stupa*. (SENG-KIA-SHE has been identified by Remusat with the Samkassa of the Pali works: but the position of this old and celebrated place was first pointed out by me. Its ruins, on the E. bank of the Káli-nadi, near Aghat-Serai, are still known by the name of Samkissa.)

Thence to the N. W. at somewhat less than 200 *li* (about 33 miles) to

No. 62—KO-JO-KIU-CHE, *Kanyakubja* or *Kanoj*,—Landresse. This city was also called *Kusumapura* or Flower-town. The king of the race of FEI-SHE (or *Vaisya*) was named KO-LI-SHI-FA-TAN-NA, “accru en joie.” (This is a transcript of the Sanskrit कल्याणस्फुटन, *Kalyāṇa-sphuṭana*, “increase of pleasure or happiness.” As this king was a Vaisya, Hwán Thsáng must have visited Kanoj prior to the conquest of the *Rathor Rajputs* in about A. D. 700.) To the N. W. of the town was a *Stupa* built by Asoka, and to the S. E. at 100 *li* (16 or 17 miles), on the bank of the Ganges, was the town of NA-FO-THI-PO-KIU-LO. (This agrees both in bearing and distance with the position of *Nanamow* on the Ganges. The Chinese syllables appear to be intended for *Navadhipokara*, or *Navadhipushkara*, the “new-chief-tank.” In *Nanamow* we have perhaps the first half of the name still preserved in a corrupted form, the latter half being changed.)

From Kanoj to the S. E. at 600 *li* (100 miles) across the Ganges, and then to the S.

No. 63—A-IU-THO, *Oudh*, Landresse;—5000 *li* (833 miles) in extent. To the N. of the town at 4 or 5 *li* (about $\frac{3}{4}$ of a mile) was a great monastery built by Asoka; and to the W. of this was a *Stupa* built over the nails and hair of *Tathágata*. To the N. W. of the town at 40 *li* (nearly 7 miles) and to the N. of the Ganges, was a temple of A-SENG-KIA Bodhisatwa (in Sanskrit, *Asankhya*). (The distance and bearing bring us to the banks of the Ganges below Cawnpore, and close to Najafgarh. In this position there is the celebrated temple of *Néona*, a few miles from the Ganges; and on the E. bank of the river between Cawnpore and Najafgarh, there is also a much frequented place of pilgrimage, of which I have unfortunately forgotten the name.)

Thence to the E. at 300 *li* (50 miles) crossing to the N. bank of the Ganges, to

No. 64—A-YE-MU-KIEI, 2400 to 2500 *li* (upwards of 400 miles) in extent. The capital was situated on the Ganges; and to the S. W. of it, also upon the river, was a *Stupa* built by Asoka. (The Chinese syllables perhaps represent अहिमुख, *Ahimukha*, “Sun-face” or “Snake-mouth.” The distance and bearing point to the position of *Dalamow*, a large town on the N. bank of the Ganges.)

Thence to the S. E. at 700 *li* (117 miles) to the S. of the Ganges, and to the N. of the YAN-MU-NA (the *Yamuna* or *Jamna*) to

No. 65—PO-LO-NA-KIA, 5000 *li* (833 miles) in extent. The capital is situated at the confluence of two rivers. (This is clearly *Prayága* or Allahabad, at the junction of the Ganges and Jamna rivers.)

N. B.—The total distance from Kanoj to Allahabad is about one-third too much. I suspect therefore that Hwán Thsang must have taken the river route, more particularly as both of the places visited were on the bank of the Ganges. Admitting this to be correct his distances will agree very well with the distances by water.

Thence to the S. W. through a great forest at 500 *li* (83 miles) to

No. 66—KIAO-SHANG-MI, *Kausámbi*, Landresse; 6000 *li* (1000 miles) in extent. Statue of Sakya by King U-THO-YAN-NA. (*Udayana*). The bearing should be N. W., for according to Profr. Wilson, *Kausámbi* was upon the Ganges above Allahabad: and Fa Hian states that it was 13 *yojans*, or about 91 miles, to the N. W. of Beuares. The modern *Karra*, with its extensive ruins, appears to be the most likely position of *Kausámbi*, as its distance from Allahabad is about a mean between Hwán Thsang’s 83 miles of river (60 miles of land) and Fa Hian’s 21 miles, that is about 40 miles from Allahabad. Close to *Karra*, on the E. there are two villages named *Kusia* and *Kusia-kua*.)

Thence to the N. at 170 or 180 *li* (28 to 30 miles) to

No. 67—PI-SO-KIA, 4000 *li* (666 miles) in extent. (The bearing and distance point to *Sálón* on the Sáli river, an old town in which a few years ago was found a copper-plate grant of Govinda Chandra of Kanoj.)

Thence to the N. E. at 500 *li* (83 miles) to

No. 68—SHE-LO-FA-SI-TI or SHE-WEI; *Srāvastī*, Remusat and Landresse. In this capital reigned King PO-LO-SI-NA-CHI-TO. (This is the celebrated city of Ayodhya, on the Sarayu or Sarju river, the capital of King *Prasenajita*, the 61st Prince of the Solar race in descent from Rama.)

Thence to the S. E. at 500 *li* (83 miles) to

No. 69—KIEI-PI-LO-FA-SU-TU, *Kapila-vastu*, Landresse. (The position of this celebrated city has puzzled every commentator; and yet, as the honored birth place of Sakya Sinha, it ought to be one of the best known places in India. The bearing and distance point to *Javn-pur*, an ancient city possessing many Buddhist buildings, one of which, the *Uttāla Vihāra*, still exists as the *Atāla Masjid*, the cloistered stories of the Buddhistical building having been left untouched by the idol breaking Musalmāns. This identification also agrees with the position assigned to *Kapila* by Fa-Hian, who places it at somewhat more than 12 *yojans*, or 84 miles, to the S. E. of SHE-WEI; or only 3 miles more than Hwán Thsáng's distance, their bearings being the same. But in addition to the agreement of both of these authorities, I will adduce the name of the place itself, as a conclusive proof of the accuracy of my identification. The present name of *Jonapura* was, we know, given to the city by Feroz Shah in honor either of his cousin *Jona*, or of his grandfather Fakhr-ud-din *Jona*. This was only a slight alteration of the ancient name of *Janampura* or *Janpura* "nativity city," a name by which the "birth place" of the holy Sakya was probably more widely known than by the *book-name* of *Kapila*. This identification also agrees with the statements of other Chinese authors, quoted by Klaproth, that *Kapila* was to the N. of Benares. MA-TWAN-LIN gives 1480 *li* (247 miles) as the distance, which would carry us to the loftiest peaks of the *Himālayas*. There must therefore be some mistake in his distance.)

No. 70—LAN-MO, *Ramapura*, Landresse. (According to Fa-Hian this place was situated at 5 *yojans*, or 35 miles, to the E. of *Kapila* almost in the exact position of *Bhitari*, an ancient town, which still possesses an inscribed pillar of the Gupta family of about A. D. 430, just two centuries earlier than Hwán Thsáng's visit. The Chinese syllables are considered by Klaproth and others to be a transcript of *Rama*: but as we find MA-U-LAN used for *Maharana*, perhaps LAN-MO may represent *Rana*.* Now the ruins of *Bhitari* are all ascribed to a nameless

* *Rāmagrāma* is no doubt the original of *Lan mo*;—in Pali, *Ramagamo*, in Siamese, *Ramakham*. It was one of the eight cities or kingdoms among which the relics (*sarira*) of Buddha were originally distributed, and the only one from which these were not removed to *Rajagriha*. Read in connection with Fa hian's account of *Lan mo*, the 31st chapter of the *Mahavanso* which leaves no room to doubt this identification. It is there stated to have been on the banks of the Ganges,—a name frequently applied to any considerable affluent of that river. But without doing great violence to the bearings and distances of Fa hian, *Lan mo* cannot be identified with *Bhetari* which is at least 40 miles too far south to correspond with the subsequent route of that traveller to *Vaisali*. Moreover *Lan mo*, as well as *Kapilavastu*, was situated westerly from *Kusinagara*, which Capt. C. identifies with *Kusia* on the high betwixt *Bettiah* and *Gorakpur*.—Eds.

Ráni, after whom the place may once have been named. Ptolemy's *Selampura* would however appear to point to the name of *Rama* in *Sri-Rampura*.)

No. 71—KIU-SHI-NA-KIE-LO, *Kusinagara*, Klaproth and Landresse. *Stupa* built by Asoka. To the N. W. of the town at 3 or 4 *li* (about half a mile) across the A-CHI-TO-FA-TI (or *Ajitarati*) anciently called SHI-LAI-NU-FA-TI "rivière où il y a de l'or" (the *Swarnarati* or "golden") and on the W. bank was the forest of SO-LO (or *Sál* trees, exactly where in Major Rennell's map I find a "Forest of *Sál* trees.") Here also was a *Stupa* of SU-PA-TO-LO, "bon sage," (or *Subhadra*. The distance next recorded from Benares points to the ruins of *Kusiá* on the Chota Gandak river, which are described by Mr. Liston in Prinsep's Journal, vi. 477. The very name is the same, and the ruined *tope* still existing there may be that mentioned by Hwán Thsang. But we have a still more conclusive proof in the existence of an image of *Buddha* at this place, which is still called *Mata Kunwr*, in Sanskrit *Mrita-Kumára*, or the "dead Prince;" this being, according to Fa Hian, the very place where Sakya died, on the bank of the river HI-LI-AN, in Sanskrit *Hiranya*, or "golden," a synonyme of *Swarnarati*. Besides which Hwáng Thsang, (in F. K. K. p. 237. N.) mentions that there was a sculpture at this place, in a large temple, representing the death of *Sakya*, which is most probably the very sculpture described by Mr. Liston, as James Prinsep states that its compartments display the various acts of *Buddha's* life. Hwán Thsang also mentions a pillar at this place, which I should think might be discovered by a careful search. *Kusinagara* is probably the *Kassidia* of Ptolemy.

Thence at 500 *li* (83 miles) through forests to

No. 72—PAN-LO-NI-SSE; *Varánasi* or Benares, Landresse. A large town on the Ganges. To the N. E. of the town and to the W. of the river PO-LO-NI (the *Varana* or *Barna-nadi* to the E. of the city) was a *Stupa* built by Asoka. To the N. E. of the town at 10 *li* (about 1½ miles) was the "Deer-Park," and to the S. W. of the temple was a *Stupa* of Asoka. Beside it also was a *Stupa* where MEI-THA-LI-YE (or *Maitreya*) received the history of *Buddha*: and to the W. of this was the place where Sákya Bodhisatwa received the history of Kasyapa. (The name of *Varanasi* is derived from *Varana* and *Asi*, the names of the two small streams between which the city is situated. According to Fa Hian there was a temple in the midst of the "Park of the Deer of the

Immortal." In the F. K. K.—note 7. p. 307, Klaproth gives Hwán Thsáng's details at length, from which it would appear that the temple was on the bank of the Barna river. Following the distance and bearing before mentioned the temple must have stood near the village of Secrole or Sikror, where the *panch-kosa* or "five-kos" route of pilgrims crosses the high road to Gházipur. In that part of the *panch-kosa* there are numerous fragments of Buddhist sculpture and architecture. But the ruins around *Sárnáth* offer a much more probable position, as the remains of three existing topes correspond with the three that were erected on spots rendered sacred by three events in Sákya's life. These spots were 1st. That where Buddha seated himself and began to turn the wheel of the law. 2nd. That where he related his history to MI-LE or MEI-THA-LI-YE (*Maitreya*); and third. That where the serpent I-LO-PO asked Buddha at what period he should get rid of his serpent body. Of the three existing topes only two have names. The largest is called *Sárnáth* which is probably a contraction of *Sarangganátha* मरुगनाथ the "Lord of Deer" a meaning which, if correct, must refer to the "cerfs de l'Immortal" of Fa Hian. I cannot help suspecting that Hwán Thsáng's temple was this very Stupa: for he states that the temple was more than 200 feet in height, and that the foundation was of *stone* and the superstructure of *brick*. Now this is a very accurate description of *Sárnáth*, of which the lower half is of *stone* and the upper half of *brick*; the height being nearly 130 feet above the country. With a gilt arrow on the top, such as the temple is said to have borne, the height would have been fully 200 feet. The second existing tope, 2500 feet due S. of *Sárnáth* is called *Chokandi*: but this name refers properly to an octagonal on its summit with four door ways, which was built in honor of the Emperor Humayun having once seated himself there. The third tope, situated 520 feet due W. of *Sárnáth* has no name now; but it is that which was half pulled down by *Jagat Singh*, the Dewán of Cheit Singh, Raja of Benares, to furnish materials for the walls of a tank in *Jagat-ganj*. The relics found in it were transmitted by Mr. Duncan to the Asiatic Society: but they are no longer forthcoming, which is very much to be regretted, for as the transcript published by Wilford gives one third part of the formula of *Ye dharmna*, &c. incorrectly, the probability is that the same proportion of the long inscription has been read incorrectly. Wilford in his usual loose manner always refers this inscription to the *Sárnáth* tope, but without any reason, further than

that it was found in the neighbourhood. In like manner the inscription on the London Monument might be called a record of the building of London Bridge.)

From thence down the Ganges to the E. at 300 *li* (50 miles) to

No. 73—CHEN-CHU, 2000 *li* (333 miles) in extent. The capital is situated on the Ganges. (The Chinese syllables probably represent *Chacha* or *Jajja*; and as the distance and bearing point to *Ghâzipur* I cannot help suspecting that the Mahomedan name is only a corruption of *Chachipura* or *Jajjapura*. We know that *Jajûrati* or *Chachâvati* and *Chachêri* or *Chachandi* were both seats of the Chandêl Rajputs. Now *Chachipura* or *Ghâzipura* may have been another of their locations; but I have not been able to trace them beyond the Jaunpur and Azimgarh districts.) To the E. of this town at 200 *li* (33 miles) was the monastery of A-PI-THO-KO-LA-NU “oreille non percée,” in Sanskrit *aviddhakarni*, a name of the Cissampelos hexandra, which most probably gave its name to the monastery. Thence to the S. E. at 100 *li* (17 miles), and to the S. of the Ganges was the town of MA-HA-SO-LO (probably some place on the *Mâhi* river, perhaps *Mahasura* although I know not whether such a place exists on that stream. This is to the N. of the present course of the Ganges: but in my remarks on No. 77 I will give my reasons for believing that the course of the river, since Hwân Thsang wrote, has gradually advanced to the S. about 20 miles.)

Thence to the N. E. across the Ganges at 40 or 50 *li* (7 or 8 miles) to

No. 74—FEI-SHE-LI, or *Vaisali*, Landresse. To the N. W. of the town at 5 or 6 *li* (about 1 mile) was the monastery where Ananda became an Arhan; to the S. E. of which was a *Stupa* built by king FEI-SHE-LI (*Visala* of the solar race, the 27th in descent from the sun.) To the N. W. was a *Stupa* of king Asoka, and the dwelling of PI-MA-LO-KI, “sans tache” (in Sanskrit, *Vimalaka* “the blameless.”) To the N. W. of the city was the ancient town of king *Chakrararti Mahadeva*, and to the S. E. at 14 or 15 *li* (2½ miles) was a great *Stupa* where was held an assembly of Arhans 110 years after the *Nirvâna*. (This was the *second* convocation described in the Mahawanso.) Thence to the S. at 8 or 9 *li* (1½ mile) was the monastery of SHE-FEI-TO-PU-LO (perhaps *Swêta-pura*, “white town,” and to the S. E. of that at 30 *li* (5 miles) on the bank of the Ganges were two monasteries. (The town of *Vaisâli* has not yet been identified with any modern position. Formerly it was believed to be Allahabad; but since the publication of the narratives of

the Chinese pilgrims, its position has been looked for in the neighbourhood of the Gandak river. The recorded distances and bearings, but more particularly that of the capital of Magadha, which was across the Gauges to the south, point to the ruins of Bakhra and *Bassar*, about 20 miles to the N. of Patna. In *Bassar*, we still have the actual name of *Vaisáli*, whose citizens are called *Passalæ* by Ptolemy and Pliny. The ruins of *Bassar* are described by Mr. J. Stephenson (in Prinsep's Journal, iv.—128) where he expresses his belief, in accordance with the general opinion, that these ruins are the remains "of a large city, at a remote period inhabited by a numerous and civilized wealthy people." At *Bassar* there is a brick tope still standing 40 feet in height; and at Bakhra there is a similar brick tope with a stone pillar surmounted by a recumbent lion. The height of this pillar above the ground is only 32 feet, the circumference being 12 feet: but as the Radhia pillar is 39 feet high with a circumference of only 11 feet 2 inches, it seems probable that there must be at least 12 feet of the Bakhra pillar beneath the ground. An excavation down to the base of the column would almost certainly bring to light an ancient inscription. This might be only a repetition of those found upon other pillars: but it is quite possible that it might be a record of older date, perhaps of the second convocation which was held at this place, and which was commemorated by the erection of a *Stupa*.)

Thence to the N. E. at 500 *li* (83 miles) to

No. 75—**FE-LI-CHI**; in the north called **SAN-FA-CHI**, 2000 *li* (333 miles) in extent. The capital is called **CHEN-CHU-NU**. (The Chinese syllables represent faithfully the Sanskrit *Vriji*, वृजि, which is the well known name of a country, generally supposed to be in the neighbourhood of Mathura. The *Vriji* of Hwán Tsháng must however be the modern *Tirhut*, or *Trihutya*, of which one of the chief towns, situated in the position indicated, is named *Jenjapura*, no doubt the **CHEN-CHU-NU** of the Chinese pilgrim. The ancient name of this district was Mithila.)

Thence to the N. W. across mountains at 1400 or 1500 *li* (233 to 250 miles) to

No. 76—**NI-PHO-LO**, *Nepál*, Landresse; 4000 *li* (666 miles) in extent and surrounded by snowy mountains. (The distance is too great but the bearing is correct. As no details are given, Hwán Tsháng does not appear to have visited this country. His erroneous distance may therefore be pardoned.)

From *Vaisáli* across the Ganges to the S. to

No. 77—*MĪ-KĪEI-THO*, *Magadha*, Landresse : 500 *li* (83 miles) in extent. To the S. of the Ganges is the ruined town of *KEU-SU-MA-PU-LO*, or *Kusumapura*, “flower town,” also called *PHO-THO-LI-TSU*, (*Pataliputra* or *Palibothra*, *TSU* being a Chinese translation of *putra*, “son,” Landresse. Following the indications of the Chinese pilgrim, Klaproth has identified this town with the modern Patna : but the great Geographer Rennell had done the same fifty years earlier, from the measurements recorded by Pliny, apparently on the authority of Megasthenes. That Patna is the modern representative of the ancient *Pátaliputra* is undoubted : but I do not believe that it occupies exactly the same position ; for according to the distances of Fa Hian and Hwán Thsang, it seems that *Pátaliputra* must have been 18 or 20 miles to the north of the present town of Patna. As an analogous illustration I may mention that the present city of Delhi, or *Shahjahanábád*, is 12 miles to the north of the Hindu city of only 650 years ago. But in this case the change seems to have been effected by the vanity of successive monarchs, who built palaces, forts, and bazars, in *their own names* to the N. of the old city until the present position was at length attained by Shah Jahán. In the case of *Pátaliputra* I believe that the change has been effected by the Ganges. In *approaching* *Vaisáli* Hwán Thsang states that it was from 40 to 50 *li* (7 or 8 miles) in a N. E. direction from *MA-HA-SO-LO*, on the *southern* bank of the Ganges. Again, on *leaving* *Vaisáli* he first visits a *Stupa* $2\frac{1}{2}$ miles to the S. E. from which he proceeds $1\frac{1}{2}$ mile S. to a monastery, and thence to the Ganges, 5 miles more in a S. E. direction. From these two detailed statements it is clear that the Ganges flowed within 8 miles of *Vaisáli*, both to the S. W. and S. E. somewhere near the present Siughia. Now the very same position is indicated by Fa Hian's distance of 9 *yojans* (or 63 miles) from *PA-LI-AN-FU* or *Pátaliputra* to the “small hill of the isolated rock,” which is called *YN-THO-LO-SHI-LO-KIU-HO*, or *Indrasilaguha* by Hwán Thsang, and is placed by him close to the small town of *KIU-LI-KIA*, the *Girik* of Rennell's map, which is only 43 miles to the S. E. of Patna. The distance here is 20 miles *less* than the recorded one ; whilst the actual distances of two different points on the Ganges from Bassar or *Vaisáli* are 20 miles *more* than the recorded ones. It seems to me therefore certain that the Ganges formerly held a more northerly

course by about 20 miles; and that the ancient Pátaliputra must have stood at the same distance to the N. of the present Patna. It is only by a supposition of this kind that the recorded distances of Fa Hian and Hwán Thsáng can be reconciled with the truth. The very fact that the town, which Fa Hian had seen flourishing in A. D. 399-415, was in ruins in A. D. 629-645, seems to point to its desertion from the encroachments of the river to the south. Since then 1200 years have elapsed; a period much more than sufficient for the production of the supposed change by the gradual and successive alterations of channel towards the south, a process which is still going on. I do not however attribute this change of course entirely to the *gradual* alteration of the channel of the Ganges; for it is probable that the mention by MATWAN-LIN, that about A. D. 756 "the bank of the HO-LANG or *Ganges* gave way and disappeared," refers to some *sudden* change in the course of the river. An extraordinary flood of the Gogra river would have been sufficient to have caused the whole amount of southing here contended for; in proof of which I will only cite the much greater change in the course of the Satlaj which took place about A. D. 1790. This was caused by a cataclysm of the river, which having been dammed up by a landslip near the hot springs of Seoni, 18 miles to the N. of Simla, suddenly burst through the obstruction, and swept irresistibly over the plains until it was stopped by the high bank of the Byás at Hari-ki-patan. The new channel became a permanent one, and the junction of the Byás and Satlaj, which was formerly at Ferozpur, has since then been at Hari-ki-patan, upwards of 30 miles from the old place of confluence.)

(From Pátaliputra Hwán Thsáng proceeds to Gaya, of which he gives many minute details, that could only be verified by personal inspection or by a very good map on a large scale. Some of them however may easily be identified: Such as the river NI-LIAN-CHEN-NA, to the E. of Gaya, which is clearly the *Nilajni* river of the Government lithographed map of the new road. Also the river MA-HO to the E. of which was a great forest, is certainly the *Mahona* river, on the E. of which Rennell places "Woods" extending for more than 20 miles. After some further details Hwán Thsáng mentions the town of KO-LO-CHE-KU-LI-SSE, "demeure royale," which is undoubtedly the ancient *Rajagriha*, or "royal residence." I remark here, as in No. 46, the occur-

rence of the prefix **KO** before the syllables **Lo-che** or *raja*. As there is no doubt whatever about the correctness of the present reading of *Rajagriha*, my identification of **KO-LO-CHE-PU-LO** with *Rajapura* or *Rajáwari*, must be equally correct. Not far from this was the small town of **KU-LI-KIA** or *Girik*, the *Giryek* of Capt. Kittoe; close to which was mount **YN-THO-LO-SHE-LO-KU-HO**, or *Indrasilaguha*, “Indra’s rock-cave,” which must be the cave mentioned by Capt. Kittoe as existing in the immediate neighbourhood of *Girik*.)

To the N. E. at 150 or 160 *li* (25 to 27 miles) was the monastery of **KIA-PU-TE-KIA**. (The bearing points to the town of *Behar*, in Sanskrit *Bihára*, or “the monastery,” but the recorded distance is double the actual one. Now as the next recorded distance, supposing *Behar* to be the place intended, is just one half of the real one, I believe that there must have been an interchange of the two distances, an inadvertence of such likely occurrence that I take but little liberty in adopting it. An example of a similar kind occurs in Pliny—l. vi. s. 21. where the distance between the Hydaspes and Hyphasis is stated at 29 miles and 390 paces, while the distance between the Hyphasis and Hesidrus is given at 168 miles. Here there can be no doubt of the interchange of the two distances. In adopting this correction, the monastery of **KIA-PU-TE-KIA** must have been only 70 *li* (about 12 miles) to the N. E. of *Girik*, which corresponds sufficiently well with the position of the present *Behar*, which in Rennell’s map lies 13 miles to the N. of *Girik*. The name of the monastery in Sanskrit was perhaps *Kapataka*, “the dove-hued,” or “antimony-colored,” which is a good description of the dark metallic-looking stone of *Gaya*.)

(Thence to the N. E. at 70 *li*, or after correction as above, at 150 or 160 *li*, equivalent to 25 or 27 miles, and to the S. of the Gauges, was a large town. The bearing and distance point to *Shunar* on the Ganges. To the E. at 100 *li* (17 miles) amongst hills and woods, was the village of **LO-YIN-NI-LA**. This would appear to be the *Ruynullah* of Rennell’s map, perhaps for *Rohinala*, situated at the junction of the *Dhanian* river with the Ganges.)

Hwán Thsang here mentions no less than five kings of Magadha who had reigned previous to his visit. Their names are—

LO-KIA-LO-A-YI-TO, or *Lagraditya*.

FO-THO-KIU-TO, „ *Budha Gupta*.

THA-KA-TA-KIU-TO,	or	TAKATA GUPTA.
PHO-LO-A-YI-TO,	„	<i>Baladitya.</i>
FA-CHE-LO,	„	<i>Vajra.</i>

Two of these Princes, namely, Budha Gupta and Baladitya, are already known to us from inscriptions and coins, and a third, Vajra, is known from coins alone, but the others are mentioned nowhere else to my knowledge.

In 1842 I had already identified *Chandra Gupta*, or “moon-cherished,” with the YU-GAI, or “moon-beloved,” of the Chinese authors, who was reigning in A. D. 428. Afterwards in 1843, when I first procured a copy of the FOE-KUE-KI, I extended this identification to the line of Princes mentioned above, and at the same time I arranged the whole dynasty chronologically according to the various data which were then known. Thus according to the inscription on the gateway of the *Sáci* tope near Bhilsa, Chandra Gupta was reigning in the year 79 $\frac{3}{4}$ of the Gupta era—and, following the record of the Kuhaon Pillar, Skanda Gupta died in 133 of the same era: whilst, according to the Eran Pillar, Buddha Gupta was reigning in 165 of the Gupta era. Besides these three distinct dates of their own era, we have the year of YU-GAI, A. D. 428, already mentioned, and the period of Siladitya’s reign immediately preceding Hwán Thsáng’s visit. With these data to guide me the chronological arrangement of the different Princes of the Gupta dynasty already known to us from coins and inscriptions and from the faithful though brief records of the Chinese writers, was an easy task. As by this arrangement the accession of *Gupta*, the founder of the dynasty, appeared to have taken place in the first half of the 4th century of our era, it very soon struck me that the *Gupta era* was most probably the same as the *Balabhi era*; more particularly as it is certain that Ujain and Surashtra were subject to the Guptas, whose silver coins are of the same type, weight and fabric with those of the undoubted coins of Balabhi. This identification of the two eras appeared so probable that I at once adopted it. Lastly, in January 1847, on receipt of Reinaud’s “Fragmens Arabes et Persans, &c.” I found, to my equal wonder and delight, a decided proof that my identification of the two eras was correct. According to Abu Rihán al Biruni, who accompanied Mahmud Ghaznavi to India, the year 1088 of Vikramaditya, or the year 953 of Saké was the year 712 of the *Ballaba era*, and also *that of the*

Guptas. This is not the place for the discussion of all the points bearing upon this period of history. It will be sufficient to mention here only a few of the dates established by this discovery for the further verification of the truth of the Chinese Pilgrim's narrative. As the Balabhi era began in A. D. 319, Chandra Gupta's date of $79\frac{3}{4}$ is equivalent to A. D. $398\frac{3}{4}$. Skanda Gupta's death took place in $133 + 319 = 452$ A. D., and Budha Gupta was reigning in $165 + 319 = 484$ A. D. Now, according to MA-TWAN-LIN, Siladitya died between the years 642 and 648, say in 645 A. D. and as Hwán Thsang says that he reigned 60 years, his accession must be dated in A. D. 585. We have thus a period of 101 years to be divided between the three reigns of Takata Gupta, Baladitya and Vajra, together with the latter portion of Budha Gupta's reign, that is between nearly few reigns, which yields the natural term of somewhat more than 25 years for each reign. For the period between 452 A. D. the date of Skanda's death, and 480 A. D. the probable period of Budha's accession, or for 28 years, we have the reigns of *Dera Gupta*, of the Asirgarh inscription, and *Lagraditya* of Hwán Thsang. Thus from A. D. 452 to 585 we have six Princes amongst whom to divide a period of 133 years; which gives an average of rather more than 22 years for each reign. But this average will be lessened by adding the two reigns of Kumara and Skanda: for as Chandra Gupta was reigning in A. D. 428 we may safely assume A. D. 430 as the period of Kumára's accession. We thus have A. D. 430—585 = 155 years, to be divided between 8 Princes, which yield upwards of 19 years for each reign,—a natural term within the limits of the European averages.)

From LO-YIN-NI-LA (or *Rohinala*) to the E. amongst great mountains and forests at 200 *li* (34 miles) to

No. 78, YI-LAN-NU-PO-FA-TO, 3000 *li* (500 miles) in extent. The capital is situated on the Ganges, and near it is Mount YI-LAN-NU, which vomits forth smoke so as to darken both the sun and the moon. (The bearing and distance point to the Fort of *Mongir*, but the Chinese syllables seem to represent the Sanskrit *Hirana-parvata*, or "red-hill," a name which may have been applied to it on account of the flames which must have burst forth occasionally along with the smoke mentioned by Hwán Thsang. The existence of two hot springs, the *Sita-kund* and the *Raki-kund*, within a few miles of Mongir, shows that

this part of the country was once subject to volcanic action. There cannot therefore be any good reason for doubting Hwán Thsáng's relation, more particularly as the present name of the place, *Mauna-giri*, or the "quiet hill," would seem to allude to a former period of volcanic noise and activity. I am aware that the Brahmans refer the name to *Mudga-giri*, which however can scarcely be the original of the present spoken form of Mongir.)

Thence following the S. bank of the Ganges to the E. at 300 *li* (50 miles) to

No. 79—CHEN-PHO, *Bhágálpur*, Landresse. The capital to the N. rests on the Ganges, and to the E. of it at 40 or 50 *li* (6 or 8 miles) S. of the Ganges was an isolated hill surrounded by water. (The ancient name of Bhágálpur was *Champapura*, and as the distance and bearing agree with those of Hwán Thsáng the identification of M. Landresse is undoubtedly correct. The isolated rock surrounded by water must be one of those in the neighbourhood of *Kahálgaon* (Colgong), although the recorded distance is much too small. I would propose to read 140 or 150 instead of 40 or 50 *li*: this distance would bring us to the well known rock of *Patharghatta*, below Kahalgaon.)

Thence to the E. at 400 *li* (66 miles) to

No. 80—KO-CHU-WEN-TI-LO, also named KO-CHEU-KO-LO, 2000 *li* (333 miles) in extent. On its northern side, not far from the Ganges, was a large brick tower. (The bearing and distance point to the ruins of *Gaur*, the former capital of Bengal. The Chinese syllables perhaps represent the Sanskrit कच्छवेत्त्र, *Kachchha-vetra*, the "reedy marsh," and कच्छगड, *Kachchha-gurha*, "surrounded by marshes," or *Kachchha Gaurha*, the "swampy Gaurh," to distinguish it from the hilly Gaurh near Kashmir. In the syllables KO-LO I recognize the name of *Gaurh*, गैड. The only apparent objection to this identification is the fact that Gaur now stands some 10 or 12 miles from the northern bank of the Ganges; whilst KO-CHEU-KO-LO would seem to have been on the southern bank of the river. But it is well known that Gaur was originally on the bank of the Ganges, and that the gradual desertion of the river has led to the ruin of the city within the last 300 years. It seems to me however highly probable that one of the principal branches of the Ganges once flowed to the northward of Gaur, through the channel now called Kalendri, which connects the Kusi and Mahananda rivers. If this

supposition of a northern channel of the Ganges flowing between Gaur and Malda should not be admitted, then Hwán Thsang's statement must be wrong, for I have no doubt of the correctness of my own identification of the places. A similar mistake is made by the most accurate of all travellers, Moorcroft, who says that Shah-dera is situated on the *left* bank of the Rávi.* Gaur is probably the *Aganagora* of Ptolemy, situated just above the head of the Gangetic Delta. This may be the Sanskrit अगणगैड, *Aganya-Gaurha*, the "countless Gaurh," in allusion to the multitude of its inhabitants.)

Thence crossing the Ganges to the E. at 600 *li* (100 miles) to

No. 81—PAN-NA-FA-TAU-NA, 400 *li* (166 miles) in extent. To the W. of the town at 20 *li* was the monastery of PA-SHI-PHO (in Sanskrit *Pushpa*, "flower,") and close to the town was a *Stupa* of Asoka. (The Chinese syllables would seem to represent the Sanskrit पाम्पस्थान, *Pámpasthána*, or *Pámpathán*, "river-town," and as a *great river* was afterwards crossed to the eastward, the place must have been situated somewhere on the Brahmaputra river, at or near the present Chilmari.)

Thence to the E. at 900 *li* (150 miles) to

No. 82—KIA-MA-LEU-PHO, 10,000 *li* (1,666 miles) in extent. The people of this country were unconverted, and had built no monasteries. The King was a Brahman named KEU-MA-LO, and surnamed PHO-SE-KO-LO-FA-MA (that is, his name was *Kumára*, and his title was *Pushkalavarmma*,) or perhaps rather *Pushkala-brahma*, as *Varmona* is a Kshatriya's title.) His kingdom was the ancient *Kamrup*, the country of Ptolemy's *Tameræ*, and now called *Asam*, from the conquering Raja Chu-kapha, who took the title of *Asama* or "unequalled." The distance mentioned by Hwán Thsang points to the neighbourhood of Gohati as the position of the capital, which is perhaps the *Tugma Metropolis* of Ptolemy. It is clear that *Kamrup* comprehended the whole of what is now known as *Asam*, for Hwán Thsang proceeds to state that amongst the mountains to the E. there was no great kingdom; and that in two months the southern frontier of the Chinese

* Travels, Vol. I. p. 107. I have a suspicion that this is a mistake of the Editor, and not of Moorcroft himself—for Professor Wilson has certainly not done full justice to Moorcroft, no doubt owing to the confused state of the papers. Thus the description of the *piers* of the Kashmirian Bridges is transferred to the *pillars* of the Jama Masjid. It is no wonder therefore that Thornton was puzzled. A new edition of Moorcroft, unmutilated, would be of more value than any other single book of travels that I know.

district of *Shu* could be reached by very difficult and dangerous roads.)

Thence to the S. at 1200 or 1300 *li* (200 to 212 miles) to

No. 83—SAN-MA-THA-THO, 3000 *li* (500 miles) in extent: a low country on the sea-shore. Near the town was a stupa built by Asoka. (The bearing and distance point to *Sunargaon*, the ancient capital of the Dhaka district, which lies low and extends to the sea-shore as described by Hwán Thsáng. The first half of the name of *Sunargaon* or *Sundari-grāma*, seems to be preserved in the Chinese syllables SAN-MA. The greater part of the *Sundarbans* or *Sundari-vana*, “Sundari-jangals,” was formerly comprised in the Dhaka district. The town of *Sunargaon* was therefore probably so named from its being the capital of the *Sundari* district, which is no doubt the *Kirrhadia* of Ptolemy, or the country of *Kirátas*, किरात, barbarians living amongst woods and mountains.)

Thence to the N. E. on the sea-shore and in the midst of mountains and vallies was the kingdom of SHE-LI-CHA-THA-LO. (Unless there is some mistake in the mention of the sea-shore, this place must, according to the bearing and distance, be identified with *Silhet* or *Srihata*. But I would prefer reading to the S. E., which would bring us to *Chaturgrāma*, or *Chittagaon*, a district situated on the sea-shore, and abounding in woods and vallies. The name also seems to agree with this identification, as the Chinese syllables are probably intended for *Sri-Chatura*.)

Somewhat farther to the S. E. in a corner of the great sea was the kingdom of KIA-MA-LANG-KIA. (The bearing, and the position in an angle of the sea-coast point to the neighbourhood of Cape Negrais, and the shores of Arracan. In fact the last two Chinese syllables seem to be only a transcript of *Rakhang*, which is the proper name of Arracan.)

Beyond that to the E. was the kingdom of TO-LO-PO-TI (most probably the ancient *Pegu*.) Still farther to the E. was the kingdom of SHANG-NA-PU-LO; (perhaps *Siam*, or *Syámapura*, the *Samarada* of Ptolemy.) Still more to the E. was the kingdom of MA-HO-CHEN-PUO (or *Mahachampa*, most probably the present *Kamboja*, of which the district along the sea-coast is still called *Champa*.) Thence to the S. W. was the island-kingdom of YAN-MA-NA. (The bearing points to *Java*, the *Yava* of Sanskrit, and the *Javadii Insula* of Ptolemy.)

From SAN-MA-THA-THO to the W. at 900 *li* (150 miles) to

No. 84—TAN-MA-LI-TI, or *Tamralipti*, Landresse : 1400 or 1500 *li* (233 to 250 miles) in extent. The capital, situated on the sea-shore, enjoys much commerce both by land and water. Near it is a Stupa built by Asoka. (The identification of M. Landresse is certainly correct ; as both bearing and distance point to *Tamluk*, which is the modern representative of *Tamralipti*.)

Thence to the N. W. at 700 *li* (117 miles) to

No. 85—KO-LO-NU-SU-FA-LA-NA, from 4400 to 4500 *li* (733 to 750 miles) in extent. Near the town was the monastery of LO-TO-WEI-CHI, “argile rouge” (in Sanskrit *rakta*, or in Hindi *rátá*, red, and *achála*, earth :) not far from which was a Stupa built by Asoka. (The Chinese syllables appear to represent either the Sanskrit *Karana-suvarna*, “the golden field,” or *Karna-suvarna*, “the golden ear.” The bearing and distance point to the districts of Pachet and Birbhum on the Damuda river, where Ptolemy places his *Sabaræ*, in which name we probably have the *Suvarna* of Hwán Thsáng.)

Thence to the S. W. at 700 *li* (117 miles) to

No. 86—U-CHA, 7000 *li* (1167 miles) in extent. Stupas built by Asoka. On its south-eastern boundary and on the sea-shore was the town of CHE-LI-TA-LO (in Sanskrit *Jalasthala*, the present *Jalésvara* or *Jalésar*) much frequented by maritime merchants. (The bearing and distance point to the districts of Midnapur and Singhbhum on the Sabanrika river, which have the town of Jaleswara to the S. E. as described by Hwán Thsáng. Perhaps the ancient name of the district is preserved in *Echagarh* on the Sanbanrika river, 120 miles to the N. W. of Jalesar.

To the S. at 20,000 *li* (3,333 miles) was the kingdom of SENG-KIA-LO, where was the tooth of FOE, &c. (This is the Island of Ceylon or *Sinhala-dwipa*, which still possesses an elephant’s grinder, that is devoutly believed to be the tooth of Buddha. The distance is much exaggerated even by the longest land route.

From U-CHA through a forest to the S. W. at 1200 *li* (200 miles) to

No. 87—KUNG-IU-THO, 1000 *li* (167 miles) in extent. The capital is situated on a steep part of the sea-shore. Language, peculiar : religion, not Buddhistical. Ten small towns. The bearing and distance

point to the district of Katak or Cuttack, and the neighbourhood of Kanârak, where the black Pagoda stands.)

Thence to the S. W. across a great desert and through a thick forest at 1400 or 1500 *li* (233 to 250 miles) to

No. 88—KO-LING-KIA. *Kalinga*, Landresse : 5000 *li* (833 miles) in extent. Few true believers (Buddhists), many heretics (Brahmanists.) To the S. near the town was a *Stupa* built by Asoka. (The identification of M. Landresse is undoubtedly correct, although the distance is somewhat exaggerated. The name of the country is preserved in the *Kalingum promontorium* of Ptolemy ; and the chief town of the district, *Chicacul*, is Ptolemy's *Kokala*.)

Thence to the N. W. over mountains and through forests at 1800 *li* (300 miles) to

No. 89—KIAO-SA-LO, 6000 *li* (1000 miles) in extent. The king is a Kshetriya. The people are black and savage. (The bearing and distance point to the district of Gandwana, the present Nâgpur or Berar, of which the principal ancient cities were Garha, Mandala, and Ratanpur. The last of these answers to the position recorded by Hwân Thsáng. The name of Kosala is preserved by Ptolemy as "*Kosa, in qua est adamas*.")

Thence to the S. at 900 *li* (150 miles) to

No. 90—AN-THA-LO, *Andra*, Landresse ; 3000 *li* (500 miles) in extent. The capital is called PHING-KHI-LO. Language, peculiar ; manners, savage. The extensive and important Buddhistical ruins of *Amaravati*, to the W. of Nagpur. These ruins are still undescribed, a fact which reflects no small discredit both upon the British Government, which possesses the country, and upon the Asiatic Society which possesses Col. Mackenzie's MSS. drawings and inscriptions. The latter are particularly valuable and interesting, as they refer to a period prior to the date of Hwân Thsáng's visit, when Buddhism was struggling with Brahmanism but was still predominant. The most modern of these inscriptions says that "Place is not to be given to the disputer of Buddhism." It must therefore be older than A. D. 600—while the more ancient ones, from the shape of their characters, certainly reach as high a date as the beginning of the Christian era." The *Andræ Indi* are mentioned in the Pentingerian Tables, and the *Andhres* of Magadha are recorded in the Purânas. *Andhra* is also

one of the ancient names of Telingana, or the country between the Kistna and Godáviri rivers. This however answers to the Great Andhra of Hwán Thsáng, which is mentioned by Hwán Thsáng in the next article.

Thence to the S. at 1000 *li* (167 miles) to

No. 91—TA-NA-KO-THSE-KIA, also called Great AN-THA-LO; 6000 *li* (1000 miles) in extent. Inhabitants, black and savage. To the E. of the town on a mountain was the monastery of WE-PHO-SHI-LO, “montagne orientale,” and on the W. was the monastery of A-FA-LO-SHI-LO, “montagne accidentale.” (These two names are the Sanskrit *purvva-sila*, or “eastern mountain,” and *apara-sila*, or “western mountain.” This country, as mentioned above, corresponds with the modern Telingána, between the Godáviri and Kistna rivers, of which Warankul was the capital for many centuries. Hamilton erroneously states that Warankul was built in A. D. 1067, for it appears to have been the capital of the Adeva Rájas in about A. D. 800; and I have little doubt that it is the *Korunkula* of Ptolemy.)

Thence to the S. W. at 1000 *li* (167 miles) to

No. 92—CHU-LI-YE, from 2400 to 2500 *li* (400 to 417 miles) in extent. People savage, fierce and heretical. Temples of the Gods. To the S. E. of the town a *Stupa* built by Asoka. To the W. an ancient monastery, where lived the *Arhan* WEN-TA-LA “superieur,” (in Sanskrit *Uttra*. The bearing and distance point to the “neighborhood of *Karúit* on the Tungabhadra River.”

No. 93—THA-LO-PI-CHHA, 6000 *li* (1000 miles) in extent. The capital is KIAN-CHI-PU-LO, *Kanjeveram*, Landresse. The language and letters are somewhat different from those of central India. The capital is the birth-place of THA-MA-PHO-LO (gardien de la loi) PHOU-SA (in Sanskrit *Dharmma-Pála Bodhisatwa*.) To the S. of the town was a great *Stupa* built by Asoka. (The name of the country is certainly the Sanskrit द्राविडा, *Dravira* or *Dravida*, of which the most celebrated city is *Kunchipura* or *Kanjeveram*. The language and letters are Tamul.)

Thence to the S. at 3000 *li* (500 miles) to

No. 94—MO-LO-KIU-THO, or CHI-MO-LO, 5000 *li* (833 miles) in extent. The people are black and savage. On the S. this kingdom is bounded by the sea, where stands the mountain of MO-LO-YE, to the E.

of which is Mount PU-THA-LO-KIA, from which there springs a river that, after winding round the hill falls into the sea. To the N. E. of this mountain is a town from which people embark for the southern sea and for Ceylon. (I am unable to offer any equivalent for the Chinese syllables, unless CHI-MO-LO be a transcript of *Komári* or Cape *Comorin*. There can be no doubt that the district intended is the ancient *Madura*, and the *Madura regia*, Pandionis of Ptolemy, now called the southern Carnatic: but the distances from *Káncchipuram* and from Ceylon (next mentioned) are exactly double the actual measurements.)

Thence to the E. at 3000 *li* (500 miles) to

No. 95—SENG-KIA-LO, *Ceylon*, Landresse. (The various particulars related by Hwán Thsáng agree with the details of the Mahawanso: such as the conversion of the people to Buddhism in the first century after the *Nirvána* of Buddha, and their division, two centuries afterwards, into two sects.)

From THA-LO-PI-CHHA (or *Dravira*) to the N. through a wild forest at 2000 *li* (333 miles) to

No. 96—KUNG-KIAN-NA-PO-LO, *Kankara*, Landresse; 5000 *li* (833 miles) in extent. To the N. of the town is a forest of TO-LO, of which the leaves are used for writing upon throughout India. To the E. of the town is a *Stupa* built by Asoka. (The Chinese syllables represent exactly the name of *Kankanapura*, the modern *Concan*, an extensive district on the W. coast of India. The distance from the capital of Dravira points to the position of the celebrated town of *Kalbarga*, which was the capital of a Hindu principality before the Mahomedan invasion. Perhaps *Mudgal*, which is called *Modogulla* by Ptolemy, may have been the capital of the Kankan in the time of Hwán Thsáng: although there can be no doubt of the antiquity and celebrity of *Kalbarga*. The TO-LO is clearly the *Táli* tree, the leaves of which are still used for writing upon. It is erroneously called the *Talipat* tree by book-makers, as *Tálipatra* means the “leaves of the Táli,” and not the tree itself.)

Thence to the N. W. through a wild forest at 2400 or 2500 *li* (400 to 417 miles) to

No. 97—MA-HA-LA-THO, *Maharatta*, Landresse: 6000 *li* (1000 miles) in extent. The capital to the W. rests upon a large river. (Judging from the distance the chief city of Maharashtra must have

been at or near Burhánpur on the Tapti. This town is in the very heart of the old Mahratta country, and from its vicinity to the celebrated fortress of Asirgarh, I have little doubt that it was once the capital of the country. Its present name is derived from Burhán Nizám Sháh; but the town is mentioned by Ferishta as a place of consequence during the reign of Ahmed Sháh, the father of Burhán Sháh.)

Thence to the W. at 1000 *li* (167 miles) across the river NAI-MO-THO (in Sanskrit *Narmada*, the *Namadus Fluvius* of Ptolemy, and the *Narbada* of the present day, to

No. 98—PA-LU-KO-CHEN-PHO, 2400 to 2500 *li* (400 to 417 miles) in extent. The people live by sea-trade. (The position, on the northern bank of the Narbada, and in the vicinity of the sea, point to the seaport of *Baroch*, the *Barygaza* of Ptolemy and the *Brigu gacha* of the Hindus. The Chinese syllables seem to represent *Brigu champā*, in which the first half of the Hindu name is correctly preserved.)

Thence to the N. W. at 2000 *li* (333 miles) to

No. 99—MA-LO-PHO, 6000 *li* (1000 miles) in extent. The capital is situated to the S. E. of the river MU-HO. (This is undoubtedly *Malava* or *Malwa*, of which the ancient capital was *Dhár* or *Dhárana-gar*, situated to the S. E. of the upper course of the *Máhi* river, the *Máis* of the Periplus, as stated by Hwán Thsáng. But both the distance and the bearing are wrong; as the latter should be N. E. and the former should be only 1000 *li* (or 167 miles) which is the exact distance between Baroch and Dhár.) In all the five Indies, adds Hwán Thsáng, the two chief kingdoms for study are Malwa to the S. W. and Magadha to the N. E. The history of the country mentions that a king named SHI-LO-A-TI-TO (or Siladitya) reigned there for 60 years. To the N. W. of the town at 20 *li* (upwards of 3 miles) was a town of Brahmans. At the period of Hwán Thsáng's visit therefore Buddhism was still prevalent in Malwa.)

Thence to the S. W. embarking and then turning to the N. W. at 2400 to 2500 *li* (400 to 417 miles) to

No. 100—A-CHA-LI, or A-THO-LI, 6000 *li* (1000 miles) in extent. (This description seems rather vague: but by first travelling from Dhár to the S. W. to Baroch, and thence sailing along the coast till opposite

Satára, a distance of about 400 miles, would have been passed over. Satára may perhaps be the place designed by Hwán Thsáng, but, without a second clue, it is impossible to determine this name with any precision.)

From MA-LA-PHO to the N. W. at 300 *li* (50 miles) to

No. 101—KHI-CHA, 3000 *li* (500 miles) in extent. Without a king, being a dependency of Malwa. (From its vicinity to the capital of Malwa, this place could only have been a very small principality, perhaps *Khachrod*, 56 miles N. by W. from Dhár.)

Thence to the N. at 1000 *li* (167 miles) to

No. 102—FA-LA-PI, 6000 *li* (1000 miles) in extent. Here is much merchandize from distant countries. Asoka built *Stupas* at this place. The king is a *Kshatriya* of the race of SHI-LO-A-TI-TO (or *Siladitya*) of Malwa. The king of KŌ-JO-KIU-CHI (*Kanyakubja* or *Kanoj*) named TU-LU-PHO-PA-THO (or *Dhruvabhata*) is also of the race of *Siladitya*. (Jacquet's identification of FA-LA-PI with the celebrated *Balabhi*, the ancient capital of Gujrat, is undoubtedly correct. Hwán Thsáng's bearing should therefore have been S. W. instead of N. The mention that the king of Kanoj was a *Kshatriya* is especially valuable for the history of India, for by a reference to No. 62, we find that when Hwán Thsáng was at Kanoj the king was a *Vaisya*. A change of dynasty had therefore taken place during the time occupied by Hwán Thsáng in travelling leisurely from Kanoj to Balabhi. There can be no mistake about the king's caste; for the *Vaisya* Raja was named *Kalyānasphutana*, whereas the *Kshatriya* Raja was called *Dhruvabhata*.)

Thence to the N. W. at 700 *li* (117 miles) to

No. 103—A-NAN-THA-PU-LO, *Anantapura*, Landresse. 2000 *li* (333 miles) in extent. Without a king, being a dependency of Malwa. (It is impossible to believe that any place to the W. of Balabhi could have belonged to Malwa. The bearing should therefore most probably be either N. or N. E. instead of N. W. This would point to the neighbourhood of Anhalwárapatan and Ahmadnagar. The former place however formed part of the kingdom of Balabhi: but it may have been temporarily annexed to Malwa at the period of Hwán Thsáng's visit.)

From FA-LA-PI to the W. at 500 *li* (83 miles) to

No. 104.—SU-LA-THO, *Surat*, Landresse: 4000 *li* (667 miles) in extent. The capital rests to the W. on the river MU-YI. Through

this country lies the natural road towards the western sea: and the people are fond of maritime enterprizes. Near the town is mount YEUSHEN-TO. The Chinese syllables represent the Sanskrit *Surashtra* in its spoken form of *Suratha*. M. Landresse is wrong in identifying this with Surat, which is a modern town. According to Hwán Thsang the capital must be looked for in the neighbourhood of Junagarh, a place which we know to have been one of the chief cities of the peninsula of Gujrat.

From FA-LA-PI to the N. at 1800 *li* (300 miles) to

No. 105.—KIU-CHE-LO, 5000 *li* (833 miles.) Heretics, numerous: believers, few. The capital is named PI-LO-MA-LO. (Both bearing and distance point to the modern district of Jodhpur or Márwar, of which one of the principal ancient cities is *Bármér*, no doubt the PI-LO-MA-LO of Hwán Thsang, as its position corresponds exactly with the description. The name of the district would appear to have been *Gujara*, or *Gucjjara-rashtra*, the “country of Gujars.” In Hwán Thsang’s time therefore this name could not have comprized the peninsula, which was then known under the name of *Surashtra*. It would be interesting if we could trace the period of the extension of this name to the peninsula. I have a suspicion that it must have taken place after the establishment of the Rahtors in Márwár, when the original inhabitants of *Gujara*, being dislodged and pushed to the south, sought refuge in *Surashtra*, to which they gave their own name.)

Thence to the S. E. at 2800 *li* (467 miles) to

No. 106.—U-CHE-YAN-NA, *Ujjayini*, Landresse, 6000 *li* (1000 miles) in extent. Stupa: the “site of Hell,” built by Asoka. (This is no doubt the once celebrated *Ujain*, as identified by M. Landresse. “Hell” was the name of a prison built by Asoka before his conversion to Buddhism, and which he afterwards destroyed.)

Thence to the N. E. at 1000 *li* (167 miles) to

No. 107.—CHI-CHI-TO, 4000 *li* (667 miles) in extent. The king is a Brahman, and devoutly believes in the “Three precious ones.” (The distance and bearing carry us into the heart of Bundelkhand, to the kingdom of *Chachávatí* or *Jajávatí*, and its capital *Kajuráha*, which are both noticed by Abu Rihán al Biruni. *Kajuráha* is no doubt the *Kragausa Metropolis* of Ptolemy. The mention that the king was a Brahman points to a period prior to the establishment of the Chandel

Rajputs, which we know must have taken place somewhere about A. D. 700.*

Thence to the N. at 900 *li* (150 miles) to

No. 108.—MA-YI-SHE-FA-LO-PU-LO, 3000 *li* (500 miles) in extent. Heretics who do not believe in Buddha. (The Chinese syllables represent exactly the Sanskrit *Maheswarapura*, but I know of no place of this name to the N. of Bundelkhand. Perhaps *Bhuteswara*, on the Jamna, may be intended: for *Bhuteswara* and *Maheswara*, being both well known names of Siva, are of course interchangeable; and as the distance and bearing agree with those recorded by Hwán Thsáng, it is probable that my proposed identification may be correct: more especially as the Brahmanical celebrity of *Bhuteswara* agrees with the mention that the place was in the possession of “heretics” who believed not in Buddha.)

From KIU-CHE-LO (or *Gujara*, Márwár) to the N. through a desert and across the SIN-TU (or *Indus*) to

No. 109.—SIN-TU, *Sindh*, Landresse, 7000 *li* (1167 miles) in extent. The capital is PI-CHHEN-PHO-PU-LO, (perhaps *Pushpa-pura*, or “Flower town,” a very common name for Indian cities. It appears to be the *Pasipeda* of Ptolemy.) Asoka here built many *stupas*. (No distance is given, but as the city was situated on the Indus, the bearing is sufficient to indicate the town of *Alor*, which we know to have been the capital of Sind, within a few years after Hwán Thsang’s visit. I should prefer rendering the Chinese syllables by *Viswa-pura*; but *Pushpa-pura* appears to be the more likely name, as it is a very common term for Indian cities. Thus both Kanoj and Pátaliputra were also called *Kusumapura*, a synonyme of *Pushpapura*, which in its Pali form of *Puppha-pura*, was the common name of Palibothra amongst the Buddhists.

Thence to the E. at 900 *li* (150 miles) passing to the E. bank of the Indus to

* Lieut. Maisey in his account of *Kálanjjar*, (J. A. S. B.—1848—p. 188) erroneously states that the Chandel Rajas of Mahoba were of Brahmanical descent; hence, says he, “the title of Brimh.” He has apparently been misled by the vulgar pronunciation of *Barm*, which is the spoken form of *Varmma*, “armor,” a name peculiar and appropriate to the Kshatriya class. वर्म, *Varmma*, has nothing in common with ब्रह्म, *Brahma*. If symphony alone is allowed to guide etymology, *bhram* or “black bee,” may equally lay claim to a descent from *Brahma*; but, unfortunately for the bee, its name is spelt भ्रमर, *Bhramara*. Both coins and inscriptions spell the name वर्म्म, *Varmma*.

No. 110.—MEU-LO-SAN-PU-LO, 4000 *li* (667 miles) in extent. Numerous worshippers of the Gods : but few Buddhists. (There can be no doubt that the Chinese syllables represent *Mallisthanpura*, or *Mal-thánpur*, now *Multán*. The bearing should therefore have been N. E. and not E. The distance also is too little.)

Thence to the N. E. at 700 *li* (117 miles) to

No. 111.—PO-FA-TO, 5000 *li* (833 miles in extent.) Four stupas of Asoka and twenty temples of heretics. (Judging from the bearing and distance the Chinese syllables may possibly be intended to represent *Pak-patan*, an old place also called *Ajudhan*, and which is perhaps the *Ardone* of Ptolemy. This identification is however only a guess ; for both Harapa and Chichawatin agree equally well with the position indicated, and as the Chinese syllables FA-TO most probably represent the Sanskrit *Vati*, perhaps Chichawatin may be the true position.)

From SIN-TU to the S. W. at 1500 or 1600 *li* (250 to 267 miles) to

No. 112.—A-THIAN-PHO-SHI-LO, 5000 *li* (833 miles) in extent. The walls of the capital, which is called KO-CHI-SHE-FA-LO (or *Kach-chésvara*) are close to the river SIN-TU (or Indus), and also not far from the shore of the Great Sea. Without a king, being a dependency of Sind. Here Asoka built six *Stupas*. The recorded distance points to the modern peninsula of *Kachh*, of which *Kotasir* is one of the principal towns. Its position agrees exactly with that given by Hwán Thsang, and the modern name is perhaps only a slight corruption of the ancient one, although a different meaning is now attached to it. The name of the district would appear to be *Adhipasila* ; the “king’s mountain,” or the “king’s rock.” I have a suspicion that the two names have been interchanged : *Kachcheswara* being the proper name of the country, and the original of *Kachchha* or *Kachh*, of the present day.

Thence to the N. at less than 2000 *li* (about 330 miles) to

No. 113.—LANG-KO-LO, in Western India : many thousands of *li* on every side. The capital is called SU-TU-LI-SHE-FA-LO. This country is on the shore of the Great Sea. It has no king, being a dependency of Persia. The alphabetic characters are like those of the Indians, but the language is somewhat different. In the town is a temple of *Máheswara*. (The bearing and distance both point to the island of *Astola*, the *Asthála* of Ptolemy, and the *Thára* of Edrisi. This name is easily

recognizable in the Chinese syllables, which are a literal transcript of *Astuleswara*, the “Lord of *Astula*,” an appellation of Siva, as husband of *Astula* or *Durga*. The name of the district, *LANG-KO-LO-WAS*, is probably derived from *Lakorian*, an ancient town now in ruins, a little to the northward of Khozdar. The district would therefore correspond with the modern Baluchistan.)

Thence to the N. W. to

No. 114—*PHO-LA-SSE*, *Persia*, Landresse. Many tens of thousands of *li* in extent. The capital is called *SU-LA-SA-TANG-NA*. This country on the N. W. touches *FE-LIN*. (The name of the capital appears to have been *Surasthan*, no doubt the *Ram-Seristán* of Ibn Haukal, of which the ruins still exist on the Helmand, just above its junction with the *Hámún*. *FE-LIN* is of course Europe, or the country of the *Firingis* or *Franks*, called *Phi-ling* by the Tibetans, from whom the Chinese perhaps derived the name.)

From *A-THIAN-PHO-SHI-LO* (or *Kachchh*) to the N. at 700 *li* (117 miles) to

No. 115—*PI-TO-SHI-LO*, 3000 *li* (500 miles) in extent. Without a king, being a dependency of Sind. To the N. of the town at 15 or 16 *li* ($2\frac{1}{2}$ miles) in a great forest, is a *Stupa* several hundred feet in height built by Asoka; and near it to the E. is a monastery built by the Arhan *TA-KIA-TA-YAN-NA*. (The bearing and distance point exactly to the ruins of *Naserpur* and *Nerunkot*, close to the present Haiderábád. The Chinese syllables perhaps represent *Patasila*, पाटशिल, the “extensive rock,” or the “expanse of stone,” a name of the same import as *Patala*, “the extensive abode;” the common acceptation of *Patala*, is पाताल, or “Hell,” in allusion to its low position in the Delta of the Indus. The Tibetans however give it a much more natural etymology. They call the town, བོ་ཏོ་ཤི་ལོ་, *Potála*, the “place of boats,” or the “Haven.” But as *Potala* was also the name of a hill, Hwan Thsang’s syllables may be rendered *Potasila*, “the Boat-hill,” which when applied to the rocky *Nerunkot*, would be as appropriate a name as *Potala* or “Boat-place.” There can be no doubt that it is the *Patala* of the Greeks. Even now it stands at the real head of the Delta, at the point of divergence of the Guni river, which must have been the eastern branch down which Alexander sailed. The determination of this point we owe chiefly to Hwan Thsang’s distances.)

Thence to the N. E. at 300 *li* (50 miles) to

No. 116—A-PAN-CHHA, 2400 to 2500 *li* (400 to 417 miles) in extent. Without a king, being a dependency of Sind. *Stupa* built by Asoka. (Judging by the bearing and distance the place intended must be the celebrated *Brahmanábád*, which was rebuilt as Mansura. It is the "Brahman city" of the historians of Alexander, and the *Harmatelia* of Diodorus, which I believe to be derived from the Sanskrit *Brahmathala*, in its spoken form of *Brahmathala*. The Chinese syllables would however appear to bear some resemblance to *Uchha* or *Uch*; but that town is more than 300 miles distant.)

Thence to the N. E. at 900 *li* (150 miles) to

No. 117—FA-LA-NU, 4000 *li* (667 miles) in extent. It is a dependency of KIA-PI-SHE (or *Kapisa*, now *Kushán*.) The language has a slight analogy with that of central India. It is said that on the westward amongst the mountains it stretches to KI-KHIANG-NA. (Hwán Thsáng has now crossed the frontier of Sindh, and entered the territory dependent on *Kapisa* or *Kushán*. His bearing must therefore be wrong as well as his distance; for by following them we only reach the neighborhood of Aror, the capital of Sindh. But by comparing his farther progress towards *Kapisa*, and by taking his distances and bearings from that place, together with the name of the district itself, it seems most probable that the country around the *Bolán* Pass must be intended. The Chinese syllables are indeed a faithful transcript of *Bolán*; and although the distance is just double that recorded by Hwán Thsáng, yet the fact that the pilgrim was proceeding from Sindh to Kabul almost proves the correctness of my identification, as the Bolan Pass was the nearest route that he could have followed. But when joined to the absolute identity of name, I think there can scarcely be a doubt as to the correctness of the identification.)

Thence to the N. W. across great mountains and large streams, and past several small towns at 2000 *li* (333 miles) on the frontier of India, to

No. 118—TSAO-KIU-THO, 7000 *li* (1167 miles) in extent. Language and letters peculiar. *Stupas* built by Asoka. Temple of the God TSU-NA, who came from Mount A-LU-NAS (*Aruna*, the "red,") near *Kapisa*. (Taking the next recorded bearing and distance from HU-PHI-NA or *Hupian*, TSAO-KIU-THO must be the district of *Arachosia*

on the *Arachotus* river. The Chinese syllables indeed seem to point to this name. The old capital of Arachotus or Alexandropolis, was situated on the Arachotus river; but its distance from Hupian is much too great. *Ghazni* would appear rather to have been the capital visited by Hwán Thsáng, as it lies on the high road to Kabul.)

Thence to the N. at 500 *li* (83 miles) to

No. 119—FOE-LI-SHI-SA-TANG-NA, 2000 *li* (333 miles) from E. to W., and 1000 *li* (167 miles) from N. to S. The capital is called HUPHINA. The king, of the race of Thu-kiuei (or *Turk*, Landresse) is attached to the Three Precious Ones. (The Chinese syllables represent *Parashasthána*, the modern *Panjhir* or *Panjshir* valley, where Ptolemy places the *Parsii* and their two towns *Parsia* and *Parsiana*. The capital is undoubtedly the present *Hupian* near Charikar, which was the position of the celebrated *Alexandria ad Caucasum*, called by Stephen of Byzantium, *Alexandria Opiané*. I have discussed this subject in my article upon Ariano-Grecian Monograms published in the Numismatic chronicle of London.)

Thence to the N. E. over mountains and rivers, and passing by ten small towns, to the frontier of *Kapisa*, one reaches the great snowy mountains, and the PHO-LO-SI-NA chain. This is the highest peak of *Jambu-dwipa*. From thence a descent of three days to

No. 120—AN-THA-LA-FO, the ancient country of the TU-HO-LO (or *Tochari*), 3000 *li* (500 miles) in extent. Without a king, being tributary to the Turks. (This place has already been identified by Professor Lassen with *Anderáb* to the N. of the Hindu Kush. The PHO-LO-SI-NA chain is clearly the *Paropainsus* of the Greeks, called *Parnessus* by Dionysius Periegesis. That Hwán Thsáng's appellation is the correct one is proved by the Zend name of Mount *Aprasin*, which is accurately preserved in the *Parrhasini* of Pliny, and in the *Parrhasii* of Strabo and Solinus. The celebrated Greek name of Parnassus appears to have been only a fond alteration of the true name by the soldiers of Alexander's army in remembrance of their own famous mountain.)

Thence to the N. W. through vallies and over hills and past many small towns at 400 *li* (67 miles) to

No. 121—HUO-SI-TO, ancient country of the *Tochari*, 3000 *li* (500 miles) in extent. Without a king, being tributary to the Turks.

(This must be some place on the Ghori river between Baghalán and Kunduz. The Chinese syllables appear to represent some name like Khosta, but as we possess no detailed maps of this part of the country it is almost impossible to identify this place, as well as several others mentioned by Hwán Thsang.)

Thence to the N. W. over hills and through vallies, and past several towns, to

No. 122.—HU-o, formerly belonging to the Tochari. Without a king, being tributary to the Turks. (This is most probably *Khulm*.)

Towards the E. at 100 *li* (17 miles) is

No. 123.—MENG-KIAN, formerly belonging to the Tochari. Without a king, being tributary to the Turks. (The bearing and distance point to the neighbourhood of *Yang-Arek*, near which are the ruins of an ancient town, which may probably be the MENG-KIA of Hwán Thsang.)

Thence to the N. is

No. 124.—A-LI-NI, formerly belonging to the Tochari. It lies upon both banks of the FA-TSU (or *Oxus*) and is 300 *li* (50 miles) in extent. (This is undoubtedly the *Walin* of Ibn Haukal, the *Urwalin* of Edrisi, and the *Welwaleg* of Ulugh Beg. According to Edrisi (1. 475) it was 2 days journey to the E. of Khulm, and 2 days to the W. of Télián, which agrees with the position assigned to it by Hwán Thsang. This would place it about the mouth of the Kunduz river, where there still exists a Fort called *Kilah Zál*. Now Ibn Haukal writes the name *Zuálin*, as well as *Wálin*. It is probable therefore that Kilah Zál is the identical place mentioned by all these writers. Its position on the Oxus would of course secure for it the possession of land on both sides of the river, as stated by Hwán Thsang.)

Thence to the E. is

No. 125.—KO-LO-HU, formerly belonging to the Tochari. It stretches to the Oxus towards the N. (I believe this to be the modern district of Kunduz Proper, which is bounded to the N. by the Oxus.)

To the E. across a chain of hills and past several districts and towns at 300 *li* (50 miles) to

No. 126.—KE-LI-SE-MO, formerly belonging to the Tochari, 100 *li* (17 miles) from E. to W., and 300 *li* (50 miles) from N. to S. (The bearing and distance point to *Tálikán*.)

Thence to the N. E. is

No. 127.—PO-LI-HO, formerly belonging to the Tochari; 100 *li* (17 miles) from E. to W. and 300 *li* (50 miles) from N. to S. (This is perhaps the old city of Barbara, now in ruins, at the mouth of the Kokcha river.)

From KE-LI-SE-MO, across the mountains to the E. at 300 *li* (50 miles) to

No. 128.—SSE-MO-THA-LO, formerly belonging to the Tochari, 3000 *li* (500 miles) in extent. The rule of the Turks has very much changed the habits and locations of the people. (The recorded data point to the neighbourhood of *Tishkán*, on the high road between Tálíkán and Faizábád.)

Thence to the E. at 200 *li* (33 miles) to

No. 129.—PO-THO-TSANG-NA, formerly belonging to the Tochari, 2000 *li* (333 miles) in extent. The king is firmly attached to the belief of the Three Precious Ones. (The bearing and distance point to *Faizábád*, the capital of *Badakhshán*, of which latter name the Chinese syllables are only a transcript.)

Thence to the S. E. at 200 *li* (33 miles) over mountains to

No. 130. YIU-PO-KIAN, formerly belonging to the Tochari, 1000 *li* (167 miles) in extent. The language is slightly different from that of Badakhshan. (This is probably *Yawal* on the Wardoj river.)

Thence to the S. E. across a mountain chain by a dangerous road, at 300 *li* (50 miles.)

No. 131. KIU-LANG-NU, formerly belonging to the Tochari, 2000 *li* (333 miles) in extent. Without religion, there being but few Buddhists. The people are savage and ugly. The king believes in the Three Precious Ones. (Judging from the data this must be the present *Firganue*, close to the mines of lapis-lazuli. In fact the Chinese syllables would seem to represent some name being similar to this one.)

Thence to the N. E. by a mountainous and difficult road at 500 *li* (83 miles) to

No. 132.—THA-MO-SI-THIEI-TI, or THIAN-PIN, or HU-MI, formerly belonging to the Tochari. From 1500 to 1600 *li* (250 to 267 miles) from E. to W., and only 4 or 5 *li* (about three quarters of a mile) from N. to S., and situated between two mountains on the river Oxus. The people have green eyes, different from those of all other countries.

(The bearing and distance point to the *Wákhán* valley, which agree exactly with the description of *Hwán Thsang*; for from the *Sir-i-kol* lake to the junction of the *Shakh-dara*, the *Oxus* is 170 miles in length, measured direct on *Wood's* map; to which must be added one half more for the windings of the stream, making a total length of 255 miles. From *Ishkashm* to *Kundut*, the valley of *Wákhán* is from "a few hundred yards to a mile in width." The average width is therefore somewhat more than half a mile, as accurately stated by *Hwán Thsang*. This is one more proof that the measurements of the Chinese pilgrim are generally correct. The name of *Hu-mi* is no doubt derived from the *HIEN-MI* tribe of *Tochari*, whose name is still preserved in *Amu*, the modern appellation of the *Oxus*. *Wákhán* is mentioned by *Ibn Haukal*, *Edrisi* and *Marco Polo*, and it is, I believe, the *Vanda-banda regio* of *Ptolemy*.)

NO. 133.—*SHE-KHI-NI*, 2000 *li* (333 miles) in extent. The capital is called *WEN-TA-TO*. This country is to the N. of the Great Snowy Mountains. (*SHE-KHI-NI* is the *Shakhnán* of the present day, and the *Sakinah* of *Ibn Haukal* and *Edrisi*.)

To the S. of *Wákhán* and the Great Mountains is

NO. 134.—*SHANG-MI*, 2500 to 2600 *li* (417 to 433 miles) in extent. The letters are the same as those of the *Tochari*; but the language is different. The king is of the race of *SHE*. The religion of *Buddha* is held in great honor. (This can only be the valley of *Chitral*, with the lateral vallies of *Kafiristan*. The name was perhaps derived from the Indo-Scythian tribe of *SHWANG-MI*.)

To the N. E. over the mountains by a dangerous road, at 700 *li* (117 miles) is the valley of *PHO-MI-LO*, (or *Pamer*, *Landresse*) which is 1000 *li* (167 miles) from E. to W. and 100 *li* (17 miles) from N. to S. and is situated between two snowy mountains. There is the great lake of serpents, which is 300 *li* (50 miles) from E. to W. and 50 *li* (upwards of 8 miles) from N. to S. It is in the midst of the *Tsung Sing* mountains. (This is the well known lake of *Sir-i-kol*, at the source of the *Oxus* and in the district of *Pamer*.)

To the S. of *Pamer*, across the mountains is the kingdom of the *PO-HE-LO* (or *Bolor*, *Landresse*) which produces much gold. The S. E. part of the district is inhabited. (This is the kingdom of *Balti* or Little Tibet, which is called *Palolo* by the *Dardus*. From this name

has been derived that of the mountain range of *Bolor*, and perhaps also that of *belor* or “rock crystal.”)

Thence beyond the snowy mountains and glaciers is

No. 135.—KO-PHAN-TO, 2000 *li* (333 miles) in extent. The capital is situated on a high mountain, close to the river SI-TO. The king takes the title of CHI-NA-THI-PHO-KIU-TA-LO, “race du dieu du soleil de la Chine” (or *China-deva-gotra*.) The SI-TO, or *Sita*, is the river of Kashgar; and the district appears to be that of Sir-i-kol, of which Tag-armi is now the largest town.)

Thence descending the Tsung Sing to the E. and crossing other mountains at 800 *li* (133 miles) to

No. 136.—U-SAI, 1000 *li* (167 miles) in extent. On the S. it stretches to the river *Sita*. The letters and language somewhat resemble those of Kashgar. Buddha is held in honor. Without a king being tributary to KO-PHAN-TO. To the W. of the town at 200 *li* (33 miles) is a great mountain. (This appears to answer to the district of Yangi-Hisar. It is probably the *Auzakia* of Ptolemy.)

Thence to the N. over lonely mountains at 500 *li* (83 miles) to

No. 137.—KIE-SHA, *Kashgar*, Landresse: 5000 *li* (833 miles) in extent.

Thence to the S. E. crossing the river *Sita*, the Great Sands, and a mountain chain, at 500 *li* (83 miles) to

No. 138.—CHO-KEU-KIA, 1000 *li* (167 miles) in extent. The letters are the same as those of KIU-SA-TAN-NA, (*Ku-sthána* or *Kotan*, Remusat,) but the language is different.

Thence to the E. across a chain at 800 *li* (133 miles) to

No. 139.—KIU-SA-TAN-NA (or *Kotan*, Remusat), commonly WAN-NA. The Hiung-nu call it IU-SIAN the other barbarians KU-TAN, and the YIN-TU, KIU-TAN. It is 4000 *li* (667 miles) in extent.

Thence at 400 *li* (67 miles) to

No. 140.—TU-HO-LO, or the ancient country of the Tochari. (This is no doubt the district of *Khor* in Great Tibet, for the chief tribe of the Tochari was the *Kuc̄i-shang* of the Chinese writers, the *Korano* of the coins, and the *Chaurancei* of Ptolemy.*)

* Dr. Taylor identifies Ptolemy's *Chauranai* with the *Garos* of Asam, although they are placed immediately to the E. of the *Byltæ*, or people of *Balti*, or Little Tibet. I observe with regret that Mr. B. H. Hodgson seems to admit the correctness of Dr.

Thence to the E. at 600 *li* (100 miles) to

No. 141—CHE-MA-TAN-NA, or land of NI-MO. (Perhaps *Chán-thán*, the district inhabited by the *Chatæ Scythæ* of Ptolemy.

Verification of Hwán Thsang's view of Buddhism.

It may perhaps be urged against Hwán Thsang that, as a zealous follower of Buddha, he has exhibited altogether a much too favorable view of the state of the Buddhist religion in India at the period of his visit. But fortunately, we possess the independent testimonies of two different authors, the one a Brahman, and the other a Musalman, whose statements fully corroborate the views of the Chinese pilgrim, and vouch for the entire truthfulness of his narrative. The Brahman is *Kalhana*

Taylor's identification of Asam with the *Serica* of the ancients. This is a point that in my opinion is wholly without proof, or even probability. It is indeed true that Asam and *Serica* both produced silk : and equally true is it that there was a river in Macedon and another in Monmouth, and that there were salmons in both, but this proves nothing : for Asam was certainly apart of " *India extra Gangem*," as was also Great Tibet, including the whole of the country on the Sanpú river. Thus *Eldána* is *Gáldán*, *Sagoda* is *Shigatze*, *Adisaga* is *U-Tsang* or *Lhasa*, and the *Daona Flavins* is the *Dihong* River. The *Dabasa* are the people of *Dábus*, or Central Tibet, that is of *Lhasa*, and the *Damasi Montes*, are the hills of *Dábas*. A glance at the map will show the correctness of these identifications ; but we have also the fact that the kings of Great Tibet from B. C. 250 were *Indians* of the family of *Lichchavi* of *Vaisáli*. This alone was sufficient to warrant Ptolemy in including Tibet within " *India extra Gangem*." I cannot enter into any details here ; but I may mention that the routes from India to Tibet appear to have remained unchanged since Ptolemy's time : for *Tosale Metropolis*, is most probably *Tassisudon*, the capital of *Botan* ; and *Tugma Metropolis* must be the capital of *Asam* ; whilst *Mareura emporium* is *Amarapura* the capital of *Ava*. The *Seres* were certainly the *Ouigours* whose name is preserved in the *Oichardes Fluvius* and *Oicharda*, in the *Itaguri*, *Thagurus Mons*, and *Thogura*, all of which are only various spellings of *Ouiguri* or *Ouigours*. They were called *Kiao-chang* or " *Waggoners* " by the Chinese, which term we also find preserved in the *Essedones* of Ptolemy and *Ammianus*, in the *Heniochi* of Pliny, and in the *Harmatotrophí* of Pomponius Mela : all of which are only literal translations of the Chinese name. The *Seres* must not therefore be confounded with the *Sinæ*, for the latter were the people of China Proper, the former of Chinese Tartary. A few minor identifications may also be mentioned, such as : the *Psitaras fluvius* of Pliny is the *Su-Tarini*, or river of *Yarkand* : the *Sizyges* are the people of *Sui-Ching* :—the *Damna* are the people of *Manus*, the *Asmirai* are the people of *Urumtsi* or *Bish-balig* ;—and the *Throani* or *Tharrani* are the people of *Turfán*.

Pandit, the author of the early portions of the Raja Taringini or Sanskrit history of Kashmir. According to him

In about A. D. 560, *Galúna* the minister of Vikramaditya built a *Vihára*, or Buddhist monastery. T. 3.—Sl. 476.

Between A. D. 594 and 630, *Ananggalekha*, the Queen of Durlabha, built a *Vihára*. T. 4.—Sl. 3.

Between A. D. 680 and 689, *Prakása-Devi*, the Queen of Chandra-pira, built a *Vihára*. T. 4.—Sl. 79.

Between A. D. 693 and 729, Raja *Lalitáditya* built a great *Vihára* and a *Stupa* in Hushkapura, and in another place he built a great *Chaitya*, as well as a *Vihára*. T. 4.—Sl. 188-200. He likewise erected a great copper image of *Buddha*. T. 4.—Sl. 203. His Prime Minister also, named *Chángkuna*, a Turk from Bhukhára, built a *Stupa*, a *Chaitya* and a *Vihára*. T. 4.—Sl. 211-215. And the Physician *Isanachandra*, the Minister's brother-in-law also built a *Vihára*. T. 4.—Sl. 216.

Between A. D. 751 and 782, Raja *Joyapira* erected images of the three Buddhas (the "three precious ones" of Hwán Thsáng) as well as a very large *Vihára*. T. 4.—Sl. 506.

Between A. D. 854 and 883, Raja Avanti Varmma, for the space of ten years, prohibited the slaughter of every living thing. T. 5.—Sl. 64.

In A. D. 933, Raja *Partha* with his family took refuge in the *Vihára* of Sri-Chandra, where he was fed by the *Srámanas*, or Bauddha mendicants. T. 5.—Sl. 427.

And between A. D. 950 and 958, Raja Kshema Gupta abolished the worship of Buddha and burned the *Viháras*. T. 6.—Sl. 72.

The Musalman Author is BELADORI, who states that

"The Indians give the name of *Bodd* to every object of their worship, and they also call an idol *Bodd*." Reinaud's *Fragmens*, &c. pp. 193, 194.

Again, after the conquest of Nirun in A. D. 711 "Mahomed bin Kasim was met by some 'Samanéens,' (*Srámanas* or Bauddha mendicants) who came to sue for peace." *Reinauds Fragmens*, p. 195.

From these passages of BELADORY we see that *Buddha* was still the chief object of worship in Sind some 60 or 70 years after Hwán Thsáng's visit; and that *Srámanas* and not *Bráhmans* were employed

by the people as mediators with the Musalman Conquerer. The statements of KALHANA are perhaps more interesting though not more decisive; for they show that Buddhism continued to be honored by kings and ministers until the middle of the 10th century, at which time the Buddhists were persecuted by Kshema-Gupta. It is true that several of the Kashmirian Princes also erected fanes to Siva and other Brahmanical deities. But this proves no more than that *Bráhmaism* and Buddhism were both flourishing together in Kashmir at the same time. Perhaps these Princes had the same feeling upon the subject of religion as the Frenchman, immortalized by Smollet, who made his obeisance to the statue of Jupiter in St. Peter's at Rome, saying, "O Jupiter, if ever you get the upper hand again, remember that I paid my respects to you in your adversity." Even so the Kashmirian Rajas appear to have halted between two opinions, and to have erected temples and statues of both religions, in the hope that one of the two must be right.

Chinese Map of India.

As an appropriate accompaniment of Capt. Cunningham's interesting paper on the route of Hwán thsáng, the Editors insert the annexed Chinese Map of India, originally copied by M. Klaproth from the Great Japanese Encyclopedia for the illustration of the Foe koue ki. Although in some particulars it differs from the narratives of Hwán thsáng and Shy fa hian, being the compilation of some unknown Chinese geographer, who probably gathered his materials from many and conflicting accounts, it will be found both useful and interesting at a time when public attention is directed to China for the most authentic particulars of the early history of this country.

One of the principal difficulties in identifying the routes of these travellers arises from the uncertain length of their metrical standard the *li*, which has been variously estimated at from $\frac{1}{8}$ th to $\frac{1}{2}$ a mile. Nor is this difficulty altogether removed when the Indian measure, or *yojana*, is employed. For though it is probable that in ancient times the principal high-roads were accurately measured, yet the length of the *yojana* seems to have varied in different parts of India precisely as we find the

kros (of which it is a multiple) to vary at the present day. Thus, Captain Cunningham by comparing the distances of well identified positions in the north-western parts of India, has determined the length of the *yojana* to be there about 7 English miles : but on applying this standard to Fa hian's distances in Magadha, it will be found by nearly half too great. For if we protract that traveller's route from *She wei* (Oude) to *Pa lian fou* (Patna), and assume 7 miles for the length of the *yojana*, we shall place the site of the latter town somewhere in the neighbourhood of Burdwan. But if we determine the value of the *yojana* in Magadha in the same way as Capt. C. has done in the north-west, that is from the actual distances of well determined positions, we shall find it not greatly to exceed 4 or $4\frac{1}{2}$ miles ; a value which corresponds well with all Fa hian's distances in Behar, and facilitates the identification of all his stages from Oude downwards. Thus the *direct* distance from *She wei* to *Kiu i na kie*, is by protraction, 30 *yojanas* ; measured on Arrow-smith's map (Oude to the banks of the Gandak), 120 miles ;—from Patna to Giriye, 9 *yojanas* according to Fa hian, or 40 miles on the map ;—from Giriye to *Kia ye* (which by the way, is neither modern Gaya nor Bauddha Gaya, but an ancient town* near Barábar), is a little less than 4 *yojanas* or 27 miles, bringing us exactly to the banks of the Falgo ; and so on.

That this valuation of the *yojana* is founded upon a true and ancient Indian standard may be inferred from the following remarks of Wilford. After quoting Pliny's account of the distance of Palibothra from the confluence of the Ganges and Jamna, he remarks that "Megasthenes says the high ways in India were measured, and that at the end of a *certain Indian measure* (which is not named, but is said to be equal to *ten stadia*), there was a eippus or sort of column erected. No *Indian* measure answers to this but the brahmaní or astronomical kos of four to a *yojana*. This is the Hindu statute koss, and equal to 1.227 British miles. It is used by astronomers and by the inhabitants of the Punjab ; hence it is very often called the Punjabí koss ; thus the distance from Lahor to Multan is reckoned to this day 145 Punjabí, or 90 common koss."† It is worthy of remark that the length of the *yojana* in

* *Ram Gaya* ? may we commend the investigation of this point to Capt. Kittoe, whose intimate acquaintance with that neighbourhood points him out as best qualified for the task ?

† *As. Res.* Vol. V. p. 274.

the north-west, as determined by Capt. Cunningham from Fa hian's distances, namely, within a fraction of 7 miles, bears nearly the same proportion to the Magadhí *yojana* as the *common* does to the *Punjabi* koss. The learned Colebrooke makes the standard koss 2.25 miles, and the computed koss one half of that, or a mile and an eighth.

According to Chinese translators of Buddhist works there were three kinds of *yojana* employed in India; the *great yojana* of 80 *li*, used for the measurement of level countries, where the absence of mountains and rivers renders the road easy; the *mean yojana* of 60 *li*, used where rivers or mountains oppose some difficulties to the traveller; and the *small yojana* of 40 *li*, adapted to those countries where the mountains are precipitous and the rivers deep. This shows that we must not apply an invariable standard to the every portion of these pilgrims' routes; but rather seek to determine its local value, where practicable, by the distance of well identified spots in each neighbourhood.



An account of several Inscriptions found in Province Wellesley on the Peninsula of Malacca.—By Lieut.-Col. JAMES LOW M. A. S. B. and C. M. R. A. S.

(A.) Consists of a group of seven inscriptions now extant on the rather weather-worn and sloping side of a granite rock at a place named Tokoon, lying near to the center of the Province, or almost directly east of Penang town. The whole probably appertain to one period and the same subject.

The rock was pointed out several years ago to Mr. Thomson the Government Surveyor by some Malays, but he examined it hastily, as it was covered with jungle and long grass, and it was not until a considerable time had elapsed that I accidentally learned from him its existence. I had before this passed for years consecutively close to the spot, yet such was the apathy of the villagers, or their ignorance, that no hint was given to me about the rock; and this induces me to mention that owing to this indifference and to the suspicious conduct of the native chiefs,

PM





I have been left almost entirely to rely on my personal research and that of persons trained by me for the purpose, when endeavouring during the past twelve or fourteen years to penetrate through the darkness which shut out from common view the archæology of the countries around me.

I had some difficulty in reaching Tokoon, although mounted on my elephant, owing to several almost impassable wheels or payas, as they are here termed. My people had built a small hut of jungle wood and palm leaves, and after assuring myself of the value of the inscriptions, men were set to clear away the jungle and to dig up the ground to some distance around the rock. But I was disappointed in my expectation of finding ruins and other marks of temples and an ancient population.

The inscriptions were copied by me with the utmost care, the task having occupied the greatest portion of the mornings and evenings of three days.

I did not attempt to make a facsimile, as I had no proper materials, and had not succeeded with Capt. Kittoe's plan. But I can safely say that the approach to a facsimile is perhaps as near as it would be possible to make it. The letters are very, indeed unusually, large and thick, for ancient inscriptions, but this peculiarity rendered the task, comparatively easy. Finely powdered and very dry chalk was cast loosely over the inscription until all the letters were filled. The chalk was then brushed off the surface of the stone with a bunch of feathers, and thus the lines of words became clear and legible.

The length of the largest inscription is that of the paper on which it has been copied, and as now forwarded (about ten feet).

That the style of letter is of Indian origin seems to me quite obvious, but it contrasts a good deal with the inscription B. (fig.—.) Our Brahman and Buddhist Priests here are so stupid that I have not been able to derive any assistance from them, and although I can trace some of the letters, I think, to inscriptions published in the Journal of the Asiatic Society of Bengal, I have not ventured to attempt the decyphering of them.

(B.) I discovered this inscription while engaged in excavating some old ruins on a sandy side in the northern district of this Province. It has been engraved on a sort of slate and seems to form

part only of a much larger inscription, for that portion of stone which I have got, appears to have been the upper portion of one of those pillars which are set up in the areas of Buddhist temples. I have the pleasure of forwarding a facsimile of this record made with *clay*, which is perhaps, a novel mode. The clay was fine potter's earth and sand well beaten up along with chopped gunnee bag cloth. The stone was oiled and the clay was pressed on it and afterwards dried in the shade.

The Copy was made by me in the following manner. Finely pulverized and dry brick-dust was (as the chalk was in the former instance, the stone being then blackish,) thrown over the face of the stone, and then lightly brushed off with feathers. The letters now appeared sharp and distinct, over these was pasted (with wafers at the edges) a sheet or slips of the "stylographic manifold writer paper"—and the letters were lightly impressed on this paper with a soft pencil, and when the sheet was removed any slight omissions were filled in.

I have in vain tried to discover the remaining portion of the stone.

I may observe that a copy of this inscription was, so far back as 1836, forwarded by me to the lamented James Prinsep, who in his reply observes:—"I see it is legible enough. Thus, on the right hand side of the stone following the letters are *Ma ha ta vika Buddha na ra kta vritti kanaya vrinni*. On the left side, *sarova smin sarova tha sarova sidvaya cha santa*. On the body next to the *Kulsa*, *va na tarehchaya tti karmma janchaua kan me karino*. If I had the facsimile instead of a copy I would have handed you the meaning at once. It is Sanscrit, not Pali, as we see by the *karmma*. The style of letter is nearly that of the Allahabad No. 2. Compare with the Hala Canara, published a few months ago." 13th June, 1837.

As I have not been able to get the numbers of the Journal for the above year, I cannot refer to this Hala Canara record; I may however observe that although I have satisfied myself that the Sivaic worship prevailed on this coast somewhere about the 13th century, still I have reason to believe that the Buddhist religion was co-existent, or at least contemporaneous with it. Indeed, a mysterious kind of connection seems to have existed betwixt Buddhism and the cult of Siva, which it would be desirable to have traced to its beginning. To me it seems that the period most probably was that when schismatic Buddhists had already

overstepped the mere boundary of ratiocination and had fairly reconciled the two religions, at least for a while, and until the time when Buddhism was discarded altogether. The occurrence of the word Buddha in the inscription points to his worship, and the spire in the centre is the seven-tiered one of the Indo-Chinese Dagopas.

I have not by any means closed my researches, the obstacles to these, as I have elsewhere observed, being numerous, so that further archaeological discoveries may possibly yet be made.

(C.)—Are Sanscrit verses, out of some book on religion most likely, in alto relievo, on the bottom and the four sides of a brazen ornamented dish, which was found by me amid some ruins of ancient temples in Province Wellesley. They were copied by a man of the Brahmanical tribe.

(D.)—Are impressions taken from two apparently Deva Nagri letters, imprinted on a large brick which I found in one of the ruins.

(E.)—Are two coins one of copper and the other of some mixed metal, which last decrepitates on being submitted to the blowpipe.*

I found one of these in the Keddah country, close to the British frontier, and in the bed of a clear stream. My attention was attracted by quantities of broken pottery there; and after my people, about twenty in number, had laboured for several days in sifting and searching, I picked two or three coins *myself* out of one of the baskets, a circumstance which I am induced to mention in order to obviate any doubt which might arise regarding their genuineness. I visited the place a few months ago for a second search but found no more coins.

The second coin was found by me under the foundation of the ruins of a small brick building; this last not however appearing above the surface of the ground. The spot is in the northern part of the Province. There were several hundreds of these coins in a metallic cup. From the emblems on them I consider them Buddhist coins.

The figure on the coin I have conjectured to be that of some Hindu deity. But the chief Priest of the Hindu Temple at Penang insists that it represents a king. I cannot make out the obverse.

While about to close these notes the Journal of the Society for February last has reached me. In this number I observe† that in-

* These two coins contain exactly similar impressions.

† Page 154.

quiries have been made regarding the inscription at Singapore described in the Journal, Vol. VI. p. 680, and that the Hon'ble Colonel Butterworth, C. B. supposes that I may have some portions of the stone on which it was engraved.

I was an unwilling and pained witness to the demolition of that memorial of long past ages, my petition to have it spared being met by the reply that it was in the way of some projected bungalow. On the explosion taking place I crossed the river from my office and selected such fragments as had letters on them. The Hon. the Governor, Mr. Bonham, sent to ask me to preserve a piece for him, and this is the portion alluded to by Col. Butterworth.

As the fragments were very bulky I had them, at considerable cost, gradually chiselled by a Chinese into the shape of slabs. But they are still ponderous. It happens however that the smaller fragments only contain the most legible (if the term is even here really applicable) parts of the inscription, the rest being nearly quite obliterated, and I have therefore selected them to be presented to the Society. It seems to me that this Singapore Inscription (to which I have alluded in a paper presently to appear in the Journal of the Eastern Archipelago) may probably date from an early century of our era, and I would merely here suggest that any one who may set about decyphering it may derive assistance by adverting to inscriptions which may have been discovered at the ancient Bijanagara in Orissa, or Cuttack, or wider still, along the coast of central Kalinga.

Note on the Inscriptions from Singapur and Province Wellesley, forwarded by the Hon. Col. BUTTERWORTH, C. B. and Col. J. LOW. By J. W. LAIDLAY.

The great interest expressed by the late James Prinsep and other antiquarians in the remarkable inscription at Singapur induced me, as mentioned in a former number of this Journal, to apply to the present esteemed Governor of the Straits Settlements, the Hon. Col. Butterworth, C. B. to secure for the Society's Museum any fragments that might remain after the gothic exploit alluded to by Col. Low; a request he was pleased very kindly and promptly to comply with. Since then

Col. Low has forwarded several other pieces ; and though in possession of but a small portion of the original inscription, and that evidently not the most legible, I felt bound, in justice to the obliging donors, to bestow some labour in attempting to decypher at least its character.

In his brief notice of this inscription (J. A. S. Vol. VI. p. 680) Mr. Prinsep remarks : “ Numerous have been the enquiries about this inscription, numerous have been the attempts to procure a copy of it from some of the constant visitors to the Straits for amusement or the benefit of their health. By some I was assured that the letters were evidently European, and the inscription merely a Dutch record. Others insisted that the character was precisely that of the *Delhi* pillar, or that of *Tibet*. While the last friend, Licut. C. Mackenzie, who kindly undertook the commission, gave it up in despair at its very decayed state, which seemed utterly beyond the power of the antiquarian ; and in this he was quite right. Nevertheless a few letters still remain, enough to aid in determining at least the type and the language, and therefore the learned will be glad to learn that Dr. William Bland, of H. H. S. *Wolf*, has at length conquered all the discouraging difficulties of the task, and has enabled me now to present a very accurate facsimile of all that remains any way perceptible on the surface of the rocky fragment at Singapur. The following note fully explains the care and the method adopted for taking off the letters, and I have nothing to add to it, but my concurrence in his opinion that the character is the *Pali*, and that the purport therefore is most probably to record the extension of the Buddhist faith to that remarkable point of the Malayan Peninsula. I cannot venture to put together any connected sentences or even words ; but some of the letters, the *g, l, h, p, s, y,* &c. can be readily recognised ; as well as many of the vowel marks.”

The condition of the inscription was, indeed, far worse than I supposed, and seemed to preclude all hope of decyphering the characters. By a fortunate expedient however, and by very patient study, I have been able to make out sufficient to determine its language and probable date with tolerable certainty. The method I adopted, and which may be useful in similar cases to others, was to strew finely powdered charcoal* over the surface of the stone, and sweep it gently to and fro with a feather so as to fill up all the depressions, the very slightest of which

* Animal charcoal is better than vegetable, as being specifically heavier.

was thus rendered remarkably distinct by the powerful contrast of colour. By this means and by studying the characters in different lights, I have succeeded in decyphering so much of three of the fragments as is depicted in plate III.

It will be seen from the plate that though many of the characters resemble the square Pali in form, and hence misled Prinsep to conclude that the inscription was in the Pali language, yet others, and these amongst the most distinct, bear no resemblance whatever to that type. We may safely infer therefore that the language is not Pali; an inference in which I am borne out by Mr. Ratna Paula, whose knowledge of that language renders his opinion conclusive. As the character could not be identified with that of any of the published Singalese inscriptions, I was induced to compare it with the alphabets of the Archipelago, and I find it to be identical with the *Kawi* or ancient sacred and classical language of the Javanese, specimens of which may be found in *Welhelm von Humboldt Ueber die Kawi Sprache*, vol. 2, and in Sir S. Raffles's *History of Java*. We have also in our museum a very fine inscription in that character, which has been taken by many for a peculiar form of Sanskrita. With the alphabet of this language, as gathered from similar inscriptions, I can identify all, or nearly all, of the characters; but of course no clue to the purport of the inscription can be obtained without some knowledge of the language itself.

Fig. 1, seems to have been from the upper part of the inscription, and is entirely omitted in Prinsep's lithograph as *effaced*. Figs. 2 and 3 I cannot identify with any portion of Prinsep's plate, much on the right hand side of which seems to have been so distinct, that I make no doubt had that portion been available, we might have easily transcribed continuous sentences.

The much larger fragment forwarded by Col. Butterworth, still remains to be decyphered; but I confess I feel little inclination for that barren labour until there appear some probability of the language being translated. Meanwhile we may conjecture with probability that the inscription is a record of some Javanese triumph at a period anterior to the conversion of the Malays to Muhammadanism, and the following notice of this monument in a work entitled "The Malayan Peninsula," by Capt. Begbie, Madras Artillery, may assist us in approximating its era:

Fig. 1

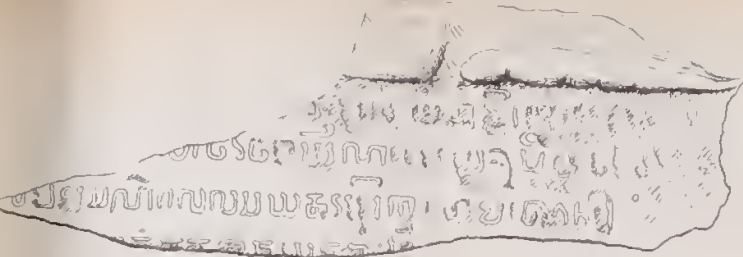


Fig. 2

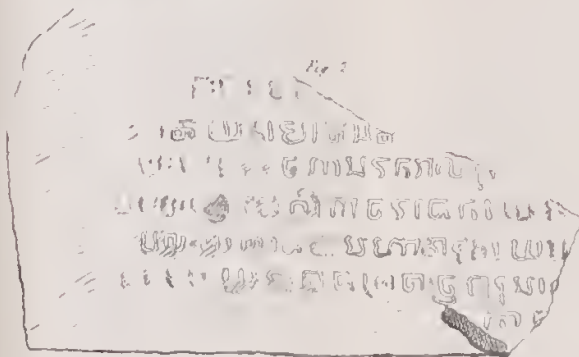
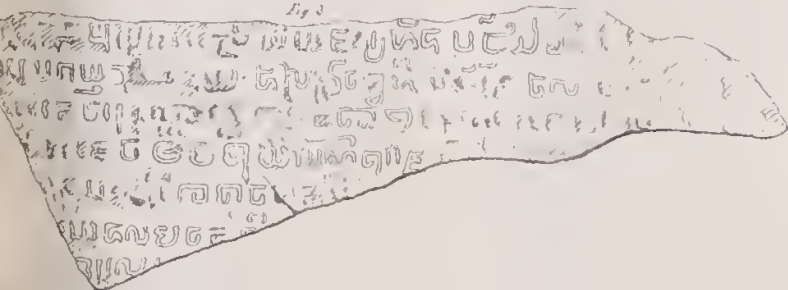


Fig. 3



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sula," by Capt. Begbie, Madras Artillery, may assist us in approxim
 ing its era :

“The principal curiosity of Singapore is a large stone at the point of the river, the one face of which has been sloped and smoothed, and upon which several lines of engraven characters are still visible. The rock being, however, of a schistose and porous nature, the inscription is illegible. It is said that Sir Stamford Raffles endeavoured, by the application of powerful acids,* to bring out the characters with the view of decyphering them, but the result was unsuccessful. Where such an eminent person has failed, it may be thought presumptuous in me to hazard a conjecture on the subject of the language in which the inscription was penned, but I may perhaps be permitted to make an attempt to throw some light upon a subject so confessedly obscure. Resorting to the Malayan annals, which, clouded as they undoubtedly are by fable and allegory, yet contain many a valuable piece of information, we find therein mention made of three remarkable stones at Singhapura. (I omit the legends attached to the first two, as altogether inapplicable here.) The third, though first in order of record, I have reserved for the last to be brought forward, because I am inclined to think that the evidence is fully presumptive in favor of its being the stone now visible at Singapore; it is to be met with at pages 62 and 63 of the *Annals*.

“The preceeding pages inform us that in the reign of Sri Raja Vicrama, there was a redoubtable champion of the name of Badaug. Several remarkable feats of strength are recorded of him, but I will merely select the one in point. The fame of Badang having reached the land of Kling, the Rajah of that country despatched a champion, named Nadi Vijaya Vicrama, to try his strength with him, staking seven ships on the issue of the contest. After a few trials of their relative powers, Badang pointed to a huge stone lying before the Rajah’s hall, and asked his opponent to lift it, and to allow their claims to be decided by the greatest strength displayed in this feat. The Kling champion assented, and, after several failures, succeeded in raising it as high as his knee, after which he immediately let it fall. The story then says that Badang, having taken up the stone, poised it easily several times, and then threw it out into the mouth of the river, and this is the rock which is at this day visible at the point of Singhapura, or Tanjong Singhapura.”

* The stone is a hard siliceous sandstone, upon which this process, if ever adopted, would have no effect.

“After some other recitals, the annals state that “after a long time, Badang also died, and was buried at the point of the straits of Singhapura; and, when the tidings of his death reached the land of Kling, the Rajah sent two stone pillars, to be raised over his grave as a monument, and these are the pillars which are still at the point of the bay.”

“Now, the first two instances are totally destitute of presumptive evidence; the last is, on the contrary, full of it. At the mouth of the river there is a large rock, which is concealed at high water, and on which a post was erected four or five years ago by, I believe, Captain Jackson of the Bengal Artillery, to warn boats of the danger; this is the rock fabled to have been hurled by Badang. He is said to have been buried at the point of the straits of Singhapura, the scene of this wonderful exploit; and there, the very spot where this record is to be still seen, the Rajah of Kling, who had been so serious a loser by it, ordered his monument to be erected.” (page 355-358.)

In this idle legend, it is by no means improbable that the name of the reigning prince is preserved, although the attendant circumstances are altogether fabulous. The kingdom of Singapura was founded, according to Malayan accounts, in A. D. 1160; and from that time up to 1250, when the whole of the Peninsula was converted to Mahammadanism, was subject to frequent invasions from the Javanese. The Rajah Vikrama mentioned in the foregoing extract, reigned from A. D. 1223 to 1236, and his era is very likely that also of the inscription. At all events we may be certain that the present inscription is not less, and cannot be much more, than 600 years old. Its preservation for so long a period may be ascribed in a great measure to its protection from the action of the weather by the tropical vegetation which concealed it, perhaps for centuries. “You remember,” writes Dr. Montgomerie, “the situation of it on the rocky point on the south side of the entrance of the Singapore Creek. That point was covered with forest trees and jungle in 1819, and the stone was brought to notice by some Bengal clashes who were employed by Captain Flint, R. N. (the first Master Attendant;) the men on discovering the inscription were very much frightened, and could not be induced to go on with the clearing, which, if I recollect right, was completed by Chinese under the stimulus of high wages. What a pity ’tis that those who authorized the destruction of the ancient relic were not prevented by some such wholesome superstition!”

Of the remaining inscriptions furnished by Col. Low the first set (A) are in Pali, and are represented in figs. 1 to 7 of Plate IV. Figs. 1 and 2 seem to form a continuous sentence, सर्व्व अकामस्य लिपुष मठयसि तु मेने रमौनिभ (स्य) राजिन श (?) ठम (?) निश (?) of which Babu Rajendralal Mittra has been good enough to supply the following Sanscrit and English version.

सर्व्वं सकामस्य रिपु मठयति तु मेने रमौनिभस्य राज्ञः शठमनिशं ।

Translation.

“I acknowledge the enemies of the contented king Ramaunibha and the wicked are ever afflicted.”

The inscriptions marked B were published by Prinsep in the 4th volume of the Journal from Col. Low's own fac similes, but without any attempt to translate them. The drawings, and especially the admirable clay impressions now sent, enable us to decypher the character without any difficulty and to supply a correct fac simile of the original. This method of taking impressions has I believe been employed by Capt. Kittoe also. It answers admirably; and though it represents the characters inverted, this inconvenience is met by observing their reflexion in a looking glass. The subjoined versions are likewise supplied by Babu Rajendralal :

Fig. 8.

महानामिकबुद्धगुप्तस्य उक्तमन्निकठस्य ।

“This is said by Mannikāṭha, the protector of all great Buddhas.”

Fig. 9.

सर्व्वेणायुःकारेण सर्व्वस्मिन्सर्व्वथा सर्व्वसिद्धयेकाग्रन्तः ।

“In every form of life knowledge becomes manifest every where and in every way.”

Fig. 10.

रजोनर्मायनिकर्म जन्मनःकर्मकारणं ।

“(That) *Karma* (religious action originating in the hope of recompense) which sports with passion, is the cause of transmigration.”

Fig. 11 is mutilated and unintelligible.

Of the monograms upon the Tookoon rock and upon bricks, we can make nothing, but we give fac similes of them in the plate.

The Sanscrit lines (C) on the brass ornamented dish, are as follow :

सवित १३९९

मदाश्रमण ।

“Savita, 1399.”

“Mahá Sramana,” (repeated four times on the sides of the dish.)

सचत्री
दशवलवीरप्र
रसम्प्रदायवीर
वरवादसदा
श्रमण ।

“Sri Mahá Sramana is acknowledged to be the mightiest of the mighty sect of Sri Dasavala” (a name of Buddha).

The copper coin is much corroded, but is easily recognised as ancient Ceylonese. The inscription श्रीमत्साहसमल्ल, *Srimat Sahasa Malla*, is legible enough, and enables us to identify the coin with one published by Prinsep in Pl. XX. Vol. VI. of the *Journal*. This prince reigned, according to the late Mr. Turnour, from A. D. 1200 to 1230; and his coins are, I believe, pretty numerous.

Gleanings in Buddhism; or translations of Passages from a Siamese version of a Pali work, termed in Siamese “Phrá Pat’hom,” with passing observations on Buddhism and Brahmanism. By Lt.-Col. JAMES LOW, M. A. S. B. and C. M. R. A. S.

“Several years after he had become a Priest, Buddha ascended to Tavatinsa,* a mountain which touches with its summit the Constellation of the Alligator, in order to visit the spirit of his mother. He there solaced her with hopes of happy transmigrations when her allotted period in this heaven should have expired, and in order to prepare her for these, he desired her to repeat certain Bali formulæ, which he had brought from the earth for her use. They are as follow, being taken from the Bali work, *Phrá D’hamma chetphrá Kamphi*.

Phra Sanggha.
Phra Wibhang.
Phra T’harjanok.
—— Po’.
—— Kattha Wat’ho.
—— Ya.
—— Pa.

* *Trayastrinsa*, in Sanscrit.

အနုပညာပညာရှင်တို့၏အားပေးမှု

¹ ² ³ ⁴ ⁵ ⁶ ⁷
 പ്രമുഖരായ സിദ്ധി
 നിർമ്മിതനാലിന്നിന്നിന്നിന്നി
 യാതൊന്ന E പദ്യ
 ൧൨ ൧൩ ൧൪

⁸
 உருகாதி ௧ ௨ ௩ ௪ ௫ ௬ ௭ ௮ ௯ ௧௦ ௧௧ ௧௨ ௧௩ ௧௪ ௧௫ ௧௬ ௧௭ ௧௮ ௧௯ ௨௦ ௨௧ ௨௨ ௨௩ ௨௪ ௨௫ ௨௬ ௨௭ ௨௮ ௨௯ ௩௦ ௩௧ ௩௨ ௩௩ ௩௪ ௩௫ ௩௬ ௩௭ ௩௮ ௩௯ ௪௦ ௪௧ ௪௨ ௪௩ ௪௪ ௪௫ ௪௬ ௪௭ ௪௮ ௪௯ ௫௦ ௫௧ ௫௨ ௫௩ ௫௪ ௫௫ ௫௬ ௫௭ ௫௮ ௫௯ ௬௦ ௬௧ ௬௨ ௬௩ ௬௪ ௬௫ ௬௬ ௬௭ ௬௮ ௬௯ ௭௦ ௭௧ ௭௨ ௭௩ ௭௪ ௭௫ ௭௬ ௭௭ ௭௮ ௭௯ ௮௦ ௮௧ ௮௨ ௮௩ ௮௪ ௮௫ ௮௬ ௮௭ ௮௮ ௮௯ ௯௦ ௯௧ ௯௨ ௯௩ ௯௪ ௯௫ ௯௬ ௯௭ ௯௮ ௯௯ ௧௦௦
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 ஸ்ரீராம கிருஷ்ண பக்தி ரத்தினம்
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¹²
 ஸ்ரீராம கிருஷ்ண பக்தி ரத்தினம்

On a brick.

3 W

"Buddha next weighed his mother in the balance against the Pal (personified), and having found the beam equipoised, he set forth on his return; just three months subsequently to his arrival, when Indra learned his intention he summoned to his presence Mattuli, and directed him to prepare a golden ladder, which might reach from the gate of his heaven down to Jumbo Dwip."

This may remind us of the armillary sphere of Zoroaster and of Jacob's ladder. "On the 16th day of the eleventh month Buddha began his descent. The procession befitted the splendor and dignity of Indra's court. This Devatta himself accompanied it, bearing on his shoulder the holy Pat'ha or vase. The Brahmá, from the heavens of the Brahmá Pari Sachcha, the Brahmá Parohita, and the Maha Brahmá, also attended, sending forth loud blasts from their conch shells, or sanghó.

When the great Saviour reached the earth this grand cavalcade of ministering Devattas departed, and Buddha was welcomed back by a mighty concourse of all ranks of the people, eager to listen to his discourses on virtue and religion. Such is (observes the writer) the efficacy of the Pali, that several Buddhist Priests, who had retired to a cave in order to recite passages from it, were astonished to find hundreds of bats tumbling down dead from the roof. Their spiritual essences (for bats may contain migrating souls), thus purified by the holy word, soared to the heaven called Hemanaráté, where they became Devattas. Those who wish to listen to Bali discourses must perform ablutions, and dress in white garments. Then taking incense and sweet-scented woods (burning them) and having covered them with a cloth, they will perform the usual puja. After having heard the Pali they should take a vessel of water and pour out a libation upon the ground to Thorani, the goddess of earth."

I described on a former occasion the places visited by Buddha,* and the publication of the Mahawansa since that time, has elucidated the subject more clearly.

"Buddha, after arriving at the country Phaya Sali Sawat, the king of which entertained him munificently, entered a Buddhist monastery. Here he informed his brother-in-law Ananda that his hour was at hand, inculcating on him that he should not quit the world at the same time, but continue to establish the faith."

* T. R. A. S.

“When it became known that the divine Buddha was about to leave the world, the four elements forsook their tasks, the heavens and the earth shook, and Meru, that king of mountains, bent like a sapling before the wind, as if giddy with apprehension, while the rivers rushed along with unwonted force. Buddha at length went into the house of a goldsmith, who directed a feast to be prepared for him.” It appears that “this divine person while in some previous condition of existence had slain a Rakhasha named Mara, but in self defence. This wretch Mara having entered the assembly, changed his body into a poison and insinuated himself into a joint of pork which had been set before Buddha. The latter was aware of the trick, but as he courted his fate, he partook of the meat and soon after expired.”

Were it not that the Buddhists themselves do not countenance the supposition, we might be induced to conclude that Buddha had been poisoned by his enemies, the heretics.

“Thus Buddha entered Nivan,—the earth groaned from its inmost caverns, the holy Ganges wept with her waters,—the plains became parched with grief, the forests shed their leaves, and all nature felt the shock. This ever memorable event occurred in the kingdom of Samoula Raja (Samala?)

“Then came Indra, and the Devattas down to the spot. The Rishii also assembled along with the Naga and Nagi. Garuda was also there.

“The body of Buddha was now got ready for the funeral pyre. Ample rolls of white cloth, with sweet-scented woods were prepared and a Maratapa (q. a type of the sthupas?) or pyramidal *bier*, was constructed to hold the body.

“When fire was applied to the pile it would not burn—not even when held by Princes and Chiefs. A shower of the mountha flowers fell from heaven. In the meantime Phra Katsop, (Kassapa, a favourite disciple of Buddha, who subsequently, as it is supposed, conveyed his doctrines to China,) arrived at the pile, when fire instantaneously burst forth from the body of Buddha, and consumed it with exception of the bones. A heavy rain then fell, and washed away the ashes from the bones. Samoula Raja placed the relics in a golden vase, and deposited them in a Chaitya (a pyramidal temple).

Soon after these events king Ajatasatru (Ajatasattu) of Rachakhrú (Rajagriha in Behar, he is said in the A. R. to be brother of

Crishna, or Bala,) invaded Kosinnarai (Kusinarake, Kusumapuri or Rajamatty where the Maha Raja often resided* and said by Wilford to be Patna), where Samoula Raja governed. His, Ajatasattu's army was composed of the troops of one hundred and one countries."

[This hyperbolical mode of describing numbers is also common both to the Burmans and Siamese.]

"These forces posted themselves in seven lines of blockade around Kusinaraké, and Ajatasatru despatched a herald to demand the relics from Samoula Raja, or to stand a storm, should he refuse to deliver them up; and the latter was just preparing to march out of the town and give battle to the enemy, when Thoula, a Brahman, urged the great risk attending an attack on so superior a force, and the sin of waging war in such a cause, when much blood must be spilt. He then proposed to negotiate and bribe off the enemy, and as the king acquiesced, the Brahman conciliated Ajatasatru by giving to him a large portion of the relics."

I will stop here to remark that this Brahman must have been a Buddhist, if we are to judge from the *humanity*, not the policy of his advice.

"Four more kings arrived afterwards, and obtained relics and gifts; Indra descended on purpose to decide on the respective claims of these Potentates to the Dhatha, or Dhato, or relics.

Some time after the death of Buddha, Malí Raja, the king of a certain country, arrived at Kusinaraké, and solicited a portion of relics, but Samoula Raja replied that he had come too late, and advised him to gather some of the ashes. He took the advice, and having collected enough he returned home and deposited them in a splendid Chaitya."

* A Buddhist Priest of Bankok gave me a description of the city of this name, which, he said is to be found in the Bali works Dhato Webbahang and Maha Parin Mirana. But he considered it as having been a Siamese city. They have indeed a province and city, so called, having taken the name from the Pali, and which they affirm was an independent Government before Siam became united under a king. I suppose it to have included the province of *Kanburi*, a place of some note in former days. The present city or town so named lies further south than the ancient one, the population having been driven south by the inroads of the Burmans. Kusinaraké is said to have been seven yojanas in length, with nearly the same breadth, was fortified, had spires on the walls, these last being 8 cubits high and was encompassed by a deep fosse. [*Kusinagara* was on the banks of the Gandak not far from Bettiah; *Kusumapura* was another name for Pataliputra, or Patna.—Eds.]

It appears that there were eight kings who received relics. But the Brahman just alluded to, proved himself to be a zealous Buddhist, for he "secreted a relic in the tuft of hair on the top of his head." "Indra perceived the theft and purloined the treasure, unknown to the Brahman; which he carried to Tavatinsa and assigned to it a chamber in a bright fane in the constellation of the Alligator. When the Brahman discovered his loss he raved and tore his hair, but tried to console himself by searching at the burning place in the hope of procuring a few cinders of the body of Buddha. But every remnant had been swept of by Mali Raja, with the exception of some very fine ashes. These had been licked up by a cow. The Brahman followed the animal and collected its dung. *This Brahman ever afterwards held cow-dung in veneration and often daubed it over his body !!!*"

If there be no other better reason for the Hindú practice of the present day of smearing the body with cow-dung, the above may not perhaps be an unpalatable one, although derived to them from an unorthodox source.

"Kasapa likewise concealed a relic in his mouth. Raja Naga also secured the left upper canine tooth, and constructed over it a magnificent Chaitya in his empire, Patala."

Kusinaraké is described in the Pali, (but I have not seen the work, and here only rely on an extract given to me in Siamese,) as having extended seven yojana in length, and having nearly the same breadth. The gates were numerous. The walls were eight cubits high, and were surrounded by spiral turrets, and a deep fosse encompassed the whole. A king or raja named Moulara, founded the dynasty here, which was carried on through twenty successive reigns at the least, until the appearance of Buddha, when Baramma Chakka reigned (Vicramaditya, perhaps.)

This king possessed seven precious things or gems, which like those belonging to the court of Vicramaditya according to Wilford in his paper in the *Astatic Researches*, and which were necessary for his state. But the poet is omitted. These were.—A white elephant endowed with reason :—a horse of pure pedigree :—a Muniratanang :—the Chakka :—a Muntri or Prime Minister :—a General and a beautiful Queen.

"Ajatasatru inclosed the relics in a magnificent casket, and placing it in a superb howda on an elephant, retraced his steps.

“ This Raja had before the occurrence of these events been instigated by Devadatta, brother-in-law of Buddha, to conspire against the life of his own parents. Stung with remorse, he had vowed to proceed, after he should have obtained the relics, on various pilgrimages and wanderings in the desert and forests, to endeavour to atone in some degree for his wickedness.

“ The Raja had spent seven years in this manner when Indra despatched his Minister, Wessanúkâm, requiring Ajatasatru to return forthwith to his kingdom and not to molest the peasantry by quartering his followers upon them. His Majesty obeyed the high injunction, and returned to Rajagriha. He here proclaimed his intention to raise a glorious Chaitya in honor of Buddha to hold the relics he had obtained from Samoula Raja.”

Indra, whose presence appears equally indispensable where great Indian hierarchical events are to be celebrated and recorded as in the structure of its history and romance, “ descended from his bright abode, escorted by a glittering host of 99,991,909 Devattas, blowing trumpets and beating sonorous instruments. He soon fixed upon a spot for the relic temple, and by the efficacy of powerful spells, he surrounded the site with lines of defence composed of invisible elephants and of other wild beasts.”

“ Ajatasatru having found a propitious moment took a slab of precious stone and wrote or engraved thereon, “ *May a poor Prince find this.*” He then engraved the following sentence upon a plate of gold :— “ He who was poor did not see Buddha,—for this reason he was poor, although he reigned over an extensive empire.”

The slab and the plate were then placed below the golden box which enclosed the relics, and all were deposited beneath a splendid fane.

“ Ajatasatru, or Chatta-satru, died without leaving any legitimate children, and the kingdom of Rajagáhá or Rajagriha (or as it seems also to be here meant Inthapattha or Indrapreshta, or Indrapuri, or Ayodia, where had also resided a king of Pataliputra*) had no legitimate ruler for the space of three lives.”

Awadi is another name given to this country.

“ Ajatasatru went to the infernal shades, because his evil deeds outweighed his good actions. Yama siezed him, and imprisoned him.

* Vol. XI. As. Res. p. 62.

in an adamantine apartment, which was guarded by whirling fiery chakras. There he remains in the hell Kumbhira. Devadhatta was precipitated into the hell called Airchi where he stands fast, being fixed by huge transverse iron spits.

“Ajatasatru could not escape the punishment due for his offences, notwithstanding his pilgrimages; and although he had directed to be constantly recited the Pali Sanghayanâi, and the Maha Chattha and P’hra D’hamma, and even had distributed all his treasure in charity.”

“In the year of Buddha 220 (or B. C. 323) the kingdom of Inthapatha was governed by a Prince named Raja D’hammasokarat, (D’hammasoka Raja or Asoka.) He was just and humane, so that the country flourished under his rule.*

“This king having learned that relics of Buddha had been buried at some former period in his dominions, sent people in search of the building which had been erected over them, but no vestige could be found. At length an old Priest related that when he was a boy he had been sent by his father to make offerings of *flowers and fruits* at a temple, the site of which he then pointed out. His Majesty was highly gratified, but desirous of ascertaining the truth of the Thero’s account before he should act upon it, he ordered the holy B’hikhunî, or Sibyls to be assembled and consulted.”

I have witnessed this mode of trying to ascertain future events, practised in Canara, and the custom also prevails in Siam, where it was probably imparted by Brahmans. A sacred dance, in the instances which I saw, was performed, during which spirits were invoked to descend, and were further incited thereto, by offerings of *dressed* meat, and the burning of huge waxen candles and perfumes.

When the Siamese Priestess, or a young man dressed as one, under the name of T’haán Phising, has continued to dance for a good while, or until it is believed the spirits are approaching, she encloses with her hands the flame of the candle, and when she ceases to feel any heat from it the inspiration it is supposed has begun. Her body is then agitated by

* Much of what is contained in these accounts will be found closely to agree with the Mahawanso, but where synchronism exists, I have thought it best to give the whole, such being at least a verification from records preserved at a great distance from Ceylon of its history above named.

a holy frenzy, and when fully inspired, she predicts, as her consultants believe, the future.

I have elsewhere described the ceremony which I saw at Jemulabad in Canara.* On reference to the Mahawanso (p. 34,) we find that Dhammāsoka in B. C. 321 had constructed splendid dagobas throughout his kingdom, and (in p. 35) that he went in procession on a great festival day, *to the temple built by himself*.

“Besides the eight Priestesses thus summoned by Dhammāsoka, there were many astrologers in attendance. The united predictions of the whole were so favorable, that the king was confirmed in his belief in the Thero’s veracity. The Priestesses now led the way to the spot indicated and His Majesty instantly set a multitude of people to dig up the ground.

Before the day had closed, however, the greatest number of these labourers had died (magnified to 80,000) owing to their having been *too impure* in mind for so holy a task.”

“The king desisted from his attempt and lamented over such a loss of human life. In this emergency he prayed to *Indra*, and this beneficent Devata sent down Phetsalukan his Minister, (the Harinarguneshi of the Jainas, perhaps,†) who appeared in form of an elegant youth bearing his bow and quiver of arrows. The king admired the bow, and inquired to what country he belonged.

The disguised Devatta replied that he came from a great distance, and that his bow was endowed with miraculous power; offering at the same time to exhibit these if his Majesty would direct people to dig again at the same spot as before, and refusing all offers of reward if successful. The king gladly renewed his attempt to excavate the ruins. The spirits which Indra on a previous occasion had set to guard the Chaitya now closed round in terrific array. But Indra’s minister told them to recollect that the same power which placed them there could remove them. Thus admonished they speedily vanished, and the Devatta returned to Indra’s heaven.

The king and his people dug again with increased vigor, and soon reached the cavity which contained the relics. And now a glorious apparition amazed the spectators. A Devatta, clothed in heavenly vestments and seated on a superb *horse*, richly caparisoned, arose from the

* Paper in the J. A. S.

† *As. Res.* Vol. 2.

excavation, holding in his hands the golden vase. This he delivered to the king. The *lamps in the cavity* still burned brightly and the flowers bloomed and diffused their fragrance around.*

When His Majesty had perused the inscription on the precious stone left by Ajattasatru, he angrily exclaimed :—

“Am I then a poor man or prince, I the King before whom tributary nations bow the knee?”

He had no sooner finished this speech than he dashed the slab on the ground and broke it to pieces.

He next read the inscription upon the plate of gold, and regretted his haste in destroying the slab, while he admired the humility of the prince who had penned the inscriptions.†

When His Majesty had returned to the city, he called a council of priests, astrologers, and wise men or pundits, in order that they should fix upon an auspicious site for a magnificent Chaitya in which the regained relics might be placed. But this council did not feel competent to decide so momentous a case, and the king was at last obliged to go into the forest and consult the Tapassa Sökkhalibutta and Thera Malái. These holy persons informed him that there was a much holier Thera still, named Utt'hak'hút, whose abode was below the waters, and that it would be by his aid alone that the new Chaitya could be surrounded with the requisite invisible walls of defence.‡

Raja Nagaś now felt his palace becoming warm, and immediately

* This mention of a horse seems to me to have reference to the funeral customs of Tartary or Scythia.

† This is an important passage, as the Chinese and Trans-himalayan Buddhists insist on making Asoka a contemporary of Sákya Muni; and in the འཛིན་མུ་ནི་ (Hdsangs blun), 28th volume of the *Mdo*, there is a legend of his meeting Asoka when a child and receiving from him a handful of earth, as alms, in his begging pot. (Schmidt, *Der Weise und der Ther*, vol. 2, p. 217.) The same story is alluded to by Fa hian, Chapter xxxii.; in commenting upon which in the recent reprint of that work, we have ventured to doubt if there exist any counterpart of this legend in Pali, or among the Buddhists of the south. It is impossible in the present state of our knowledge to account for the extraordinary anachronism of the Chinese who make Sákya the contemporary of Muh-Wang (B. C. 1000—945) and of Asoka; but it would be no difficult matter to show that their chronology contains in itself ample materials for its own complete refutation.—Eds.

‡ This Utt'hak'hút is doubtless the Assak'hutta Thero mentioned in the *Milanda Raja*.

§ “Whose abode is in Patala.”—*As. Res.*

emerged above the earth to see who wanted his assistance, but he had hardly done so, when Supanna or Garuda pounced upon him, and was bearing him off in his talons towards Simphali, when a young priest clapped his hands so loudly that Supanna dropped Raja Naga, who was much bruised by his fall to the earth. But the priests quickly restored him with healing unguents ; and being angry that the honor of having saved him belonged to a novice, they punished him by getting Dhammasoka to send him in search of Utt'hakhut.

“The young priest proceeded accordingly to the bank of the river (Ganges) and invoked the ancient man to come forth. It was not long before the sage appeared and displayed to the astonished youth a body shrivelled like a blasted sapling, and bending under the load of centuries. When the ancient learned that his aid was wanted, he took the sacred vase under his arm and proceeded to the palace of Dhammasoka. Here he found numbers of *Arahans* or Priests of the superior grade of merit waiting to receive from the King their wonted daily bounty or alms. These priests pointed out the sage to the King as an exceedingly holy person. But although his majesty was surprised at his withered appearance, he paid him no particular attention then. He was desirous however of putting to the test his reputed sanctity, and told his mahout that when the sage should appear next morning, he should push the war-elephant at him. Accordingly the mahout rushed next morning with the elephant upon the sage Tapassa, who quite unconcernedly turned his body a little so that the animal plunged his tusks into the ground, one on each side of him. The Tapassa then turned round, and patted the elephant thrice on the temples, when it was instantly changed into a stone figure. The King could not fail now to credit the power of the sage, and he therefore asked him to be his spiritual guide, also to restore the elephant to its original state, and assist in establishing the Chaitya. Utt'hakhut consented, and then drove off Garuda, so that Raja Naga might also grace by his presence the consecration of the new temple.

“All these preliminaries having been duly arranged, a Chaitya was built, consecrated and fortified, and a portion of the relics was buried underneath.”

“Dhammasoka now wished to bestow the remaining relics upon the Princes of other countries, who on being acquainted with his desire

quickly arrived and received them. On that day there was a terrible earthquake, and Meru waved to and fro like a tree before the storm. Indra attended the ceremony of division, and the Rakshas hurried to the scene in the hopes of being able to destroy the relics, and the Chaitya also. These Rakshas were preceded by a furious tempest; but Utt'hakhut perceived their advance, and having invoked the aid of Buddha, he wrapped the vase which he held under his arm, in a sheet, and threw it at their chief. The vase became a dog, which instantly clung to the Raksha's neck, and then dying produced so intolerable a stench that he fled howling through the world, calling aloud for help. But no one would assist such an evil-disposed race. However, the Devattas advised him to ask Utt'hakhut to take compassion upon him. The Raksha took this advice, and having been relieved from his misery, he became contrite."

The narrative here breaks off, and another, which apparently ought to have been first in order, commences.

"There was a king of the country of Thonthaburi, named Singharaa (Singha Raja) who had within his dominions a famous Chaitya, in which there had been deposited a tooth of Buddha."

This country is evidently Dantapura, and the king is Singha, or Sinha Raja, son of Wango.*

"It happened that a king of Chattúbádí coveted this precious relic. He therefore despatched a large army against that country. But Singha Raja refused to give up the relic, which, besides its inestimable value, had, he urged, been *long* in possession of his family. He therefore signified to the Maha Raja that he would march out next day and give him battle, adding that His Majesty had no right to demand the relic. Next morning accordingly at dawn, Singha Raja mounted his huge war elephant, clothed in dazzling armour of proof, he shone like a star conspicuous at the head of his troops he advanced on the Maha Rajah's force, and he soon singled out the latter from his bright mail, and addressing him, inquired why he had invaded the country to obtain a relic, when he might have had a share had he gone to Kosinaraké when the relics were being divided?"

This appears to be a sort of anachronism, because if this was the tooth relic now preserved in Ceylon, it was conveyed there in A. D.

* Described in the late Hon'ble Mr. Turnour's Mahawanso.

310, not as might be inferred from this account, within a life time after Buddha's death.

The Maha Raja replied that he was not at the time aware that Buddha had entered Nivan or Nirvana.

Singha Raja then invoked all the supernal powers to aid his arm, and directed his elephant to be furiously urged against the great king's. Both armies rushed to battle, and the two kings long contended hand to hand ; at length Singha Raja with one blow of his sabre rolled his adversary's head on the ground, the body remaining on the elephant. The troops of the Maha Raja now fled and were pursued with great slaughter.

"Three years after this battle a king of Hemantha Phara, confederated with the Princes of four other countries, who having united their forces to his, and thus formed an army of three hundred thousand men, marched to attack Singha Raja in order to compel him to deliver up the relic.

On arriving before Dantapura the allies encompassed it with trenches, and then sent a herald to summon the king to resign the relic. Singha Raja requested three days for deliberation, which were accorded."

It would appear however that Singha Raja foresaw that resistance would cause the loss of his kingdom ; for, continues the account, the unfortunate Prince being thus driven to extremity and disdaining to fly or to yield up the precious tooth, determined to save his honor by perishing sword in hand. He visited his queen, called his children around him, and communicated to them his resolve.

Her Majesty impressed upon the king that resistance to such a power would be vain, and urged him to assume the garb of a priest and to fly with his family to another country, carrying with him the sacred relic. That opposition to such a host resembled an attempt to quench fire without water, or like an ember on which a deluge was ready to pour. His Majesty however continued firm, and observed that it would ill-comport with the dignity which had descended to him from his ancestors were he to shun the impending conflict without making an effort to defend his kingdom ; that the sword was in his hand and could not be sheathed.

He then solemnly enjoined the queen, that in case of his death (or defeat) she should disguise herself as a priestess and seek refuge in a monastery. Next, turning to his son Thont'ha Kuman and to his

daughter Hemachala, he desired them, in either of these events, to dress themselves like peasants to secrete the relic about their clothes and to *fly to the coast*. Here they should embark on board of a vessel and proceed to Lanka, the king of which country had long expressed an ardent desire to possess a relic. He added that the time had now arrived, as predicted by Buddha, when Dantapura was to fall to the arms of five invading kings. He then delivered the relic to the Prince and Princess, and prepared for battle. He first took the bath, then clothed himself in the refulgent armour which had before dazzled the eyes of his foes. On his head was a splendid tiara, and he held in his hand a ponderous mace. After a bloody fight in which the Singha Raja was slain, the enemy gained the day. The queen obeyed the injunctions of her deceased husband, while the prince and princess escaped in disguise to the coast, where they embarked in a vessel and sailed for Lanka (Ceylon).

It may be noticed in passing that Raja Singha does not hint even at the practice of burning widows, one which Buddhists must have abhorred. So that although we find in the Mahawanso that this tooth relic was carried to Ceylon by a *Brahman* Princess, she and her parents most probably were Buddhists. "After a voyage of three months* a tempest assailed the ship and it foundered with all on board excepting Thont'ha Kuman (probably Dantakumara in Pali), and Hemachala who, still retaining possession of the relic, floated on cocoanuts to the shore.

They reached it at a place called the Diamond Sands (or that Sai Keo in Siamese) but I have not yet been able to procure a complete version of the original Bali work so cannot specify *its* title or the place here alluded to.

Here being afraid they dug a pit, and hid the relic and also concealed themselves for three days, subsisting on fruits and roots."

These Diamond Sands were probably those on the shore near to the present site of *Jagannath*, which latter has been supposed either to have been originally a Buddhist shrine, or to have been erected near to, or on the more ancient site of one. In the Mahawanso (p. 24,) we find it stated that "the right canine tooth relic was brought to Ceylon by a *Brahman* Princess from Kalinga in the year B. 853 or A. D. 310." The account now digresses a little and is tinged with the marvellous.

* This must be an error.

“There was at the period of this shipwreck a celebrated priest called Barómmat’het Thero or Thera, who resided on the hill, Assakano, one of the lowest ranges of Meru. He happened to be deeply abstracted in devotional contemplations, the force and efficacy of which were such that they lifted him up into the air. While thus soaring aloft, his eye was arrested by dazzling rays of light which were cast upwards from the *Diamond Sands*. Whereupon he instantly descended and called to the Prince and Princess to come out of their place of concealment. They related to him their sad tale, which induced him to descend into the kingdom of Raja Naga. But the snake-king on his approach rolled himself away beyond the Chakkawan, or horizon. The Thero however, compelled the Naga’s subjects to bring him back. It seems that this Raja Naga had purloined the relic unknown to the Prince and Princess, but the Thera obliged him to deliver it up. He then returned to the Diamond Sands and restored it to the brother and sister, informing them at the same time, that a vessel would touch there in three days and convey them to Lanka, and bidding them invoke him should they encounter any accident. The vessel, as predicted arrived, and a flag being hoisted on shore, a boat from the vessel landed and took off the Prince and Princess. A few days only had passed in the voyage hence towards Lanka, when a furious storm assailed the vessel, at the instigation and desire of Raja Naga, who wanted to regain the relic. The captain of the vessel then invoked the Devattas, but without effect, so that he began to suspect that the storm was owing to the presence of the Prince and Princess (who were strangers to him), and he was on the point of throwing them overboard. But they called on the Thero, who soon appeared in the form of Supannó, or Garúda, and assuaged the gale.* The captain or commander of the ship and his crew worshipped him, and then he departed. The vessel reached Lanka in three months.”

Fa Hian relates in his account of his voyage home from Ceylon that the brahman merchants of the vessel he sailed in wanted to get rid of him in the same manner and for a similar reason.

It is probable that the two vessels above alluded to came from Tamaliti. We cannot account for the voyage having lasted three months, unless by supposing that the time occupied in escaping to the coast is included in it.

* Garuda is himself fond of occasionally rather of raising than abating a storm.

The Siamese have placed the Diamond Sands near Ligor, and the ignorant amongst them, including most of the priests, consider this history as one of that country; and some of the latter were much mortified when I pointed out the absurdity of the supposition. The accounts however which they have of the history of Buddha and of Buddhism, afterwards closely accord with the Ceylonese Mahawanso, and other Indian Pali writings.

“When the ship cast anchor at Lanka the commander took his passengers on shore at a place where there was a temple called *Lohak Phra Satsi*, and where presided the chief priest or Sanghara, whose name was Thassakam Phra Múni, and who was allied to the royal family of Lanka. This priest hospitably received the strangers. When night arrived, an extraordinary light spread over the temple, and the astonished priests found that it emanated from the place where the Prince and Princess reposed. The latter then disclosed their names and the cause of their arrival, saying that they must deliver the relic into the hands of the king. A young priest was therefore despatched to acquaint his Majesty with the fortunate occurrence, who happened to be then eight *yojana* distant on a hunting excursion.* He no sooner however received the information than he was seized with a holy fervour, and dismounting from his elephant he walked seven of the eight *yojana*† to his palace, and was lamed by the exertion. The royal pair, a brother and sister, were now presented to him, and he allowed them a retinue of 500 persons and a suitable establishment to uphold their state.

By his Majesty's orders a brick and mortar Chetti or Chaittya, or pyramidal building, was constructed and was adorned inside‡ with precious stones. The relic brought by the Prince and Princess was then deposited in it with great solemnity.

Three years had passed away when the king of Lanka perceived from an ancient prophesy that in seven years from that date a certain king, Dhammasoka Raja, would erect a temple at “*The Diamond Sands*.” He likewise recollected that there were two Dona of the relics of Buddha still concealed in the country of Raja Naga. He therefore direct-

* Yet the killing of animals was forbidden by his faith.

† This cannot be the *yojana* which is reckoned at 9 miles.

‡ The receptacle for relics probably.

ed a holy priest to go and bring their relics, but the messenger had no sooner reached Raja Naga's palace, than the latter whispered to his brother* to fly with the relics to Meru and hide both himself and them. This being done he told the priest that he knew not where the relics were. But the observant priest had noticed the Raja's brother putting the relics into his mouth or swallowing them on his departure, the more effectually to conceal them. He accordingly followed him to *Merú*, where he found him coiled up and fast asleep with his jaws wide open. He drew forth the relics without awaking him, and returned with them to Lanka. Soon after this Raja Naga arrived in the form of a handsome youth, and solicited a few relics from his Majesty, which were bestowed upon him accordingly."

His Majesty now ordered a golden ship to be made. It was one cubit long, and one span broad. The relics were put into a golden cup, this was placed in a vase, and the whole were put into the golden ship.

A wooden ship was next built having a breadth of beam of seven long cubits."

(The length, judging by such a breadth would be about 200 feet.)

"When built this vessel was loaded with bricks and mortar, and abundance of provisions and necessaries, with gold and silver, were placed on board. Four golden jars were made for the occasion, and they were filled with the poison of snakes.

T'hont'ha Kuman and Hemaehala, being desirous of revisiting their country, the king of Lanka sent along with them ambassadors to one of the five kings, (he) who now ruled there, requesting him to show every sort of attention and respect towards them. Two hundred young men and one hundred damsels† were also embarked, and many learned priests availed themselves of this opportunity of spreading their religion (the Buddhist.)

The vessel reached the Diamond Sands in five months,‡ and the Prince and Princess then went on shore accompanied by the priests (of Buddha.)

* Nephew in the *Mahawanso*, pp. 188, 189, where a longer account is given. It is moreover stated that the enshrining of these relics took place in Ceylon.

† Labourers apparently.

‡ This might have been an alteration by the Siamese, perhaps in order to make it appear that Ligor was the destination of the vessel, but more probably it is merely a clerical error.

The golden ship and its holy contents were carried in procession upon the heads of thirty men, to a spot which the astrologers had fixed on."

(These astrologers were, we may believe, Brahmans, for this tribe had not then become prominently distinct as religionists until a much later period, and many were Buddhists.)

"A square excavation was then dug to the depth of a tall man's height, and proportioned according to the instructions contained in the sacred books. Water was next poured into the vase so as to float the golden ship, and the whole, as before enumerated, were deposited at the *bottom of the excavation.*"

In a former description the relics were placed in the centre of the building. In the Mahawanso they are noticed as occupying a compartment of the famous Anarudha temple, on a level with that ledge or part of the basement where flowers were offered; being thus considerably above ground.

At each corner of the square a jar or vase (emblematical perhaps of the four elements) was placed underneath and filled with the venom of snakes. Four priests of known sanctity consecrated the spot, and a tablet of stone with an inscription upon it was fixed upright in the *pit*, its front facing the north.* Its import was that "The King of Lanka has ordered this inscription in the language of Lanka [Magadhi?] to be placed under the Chaitya as a memorial of the erecting of the same; and of there having been four holy priests sent by him to superintend its construction and consecrate it in due form."

The materials were then landed, the pit was filled up with stones; and on this foundation the Chaitya was quickly built.

The vessel now set sail for Dantapuri, which it reached in a little more than three months.† The ambassadors of the king of Lanka landed here along with the Prince and Princess. The two latter were treated (by the ruling Prince) with much distinction, and remained in that country.

The ship returned to Lanka in forty days.‡

* This I take to be a clerical error, and that N. E. if not E. was the direction.

† An exaggeration for the purpose before noticed, if not a clerical error.

‡ This is nearer the mark, perhaps, therefore the foregoing lengths of voyages are clerical errors. Perhaps the stay at the temple is included in the time so stated.

An Account of Dhammāsoka, Raja of Awadi.

B. C. 321. "King Dhammāsoka Raja, the lord of earth and sky, governed the country of Awadi with strict justice; and pursued the humane and munificent course which great Princes ought to follow.

In the midst, however, of prosperity and abundance the kingdom was suddenly afflicted by a sweeping pestilence. The king consulted his astrologers, and they advised him to emigrate with his people to another quarter. His Majesty accordingly set out with all his family, and he was followed by the largest portion of his subjects. Of these followers thirty-one thousand were able-bodied men, [31,000,]* who had their wives, children and effects with them.

This body journeyed to the *southward*, and wandered about for seven months, when it formed a temporary encampment in the jungle. Houses for the priests were here constructed, especially for two (principal ones) named Buddha Kamphean, and Achan Buddha Sākon. A temple was likewise erected here and a tank dug.†

Several years prior to these events Raja Naga had paid a visit to the temple at the Diamond Sands, and as a memorial of his having done so he left a precious stone fixed in the fork of a tree.

This temporary residence of the king was not far distant from the above temple, although he was not aware of it. Indra therefore felt himself called on to lend his aid. By his order his minister having assumed the appearance and dress of a peasant, stationed himself near to a spot where a hunter was watching to kill deer for the king's table.‡ He contrived to bring one before the hunter, who wounded it with an arrow. It went slowly away and the hunter followed it to the Diamond Sands, where it left him benighted. He mounted a tree for protection during the darkness, and early next morning he was forcibly attracted by the glare of the jewel left by Raja Naga. He speedily secured the rich prize and returning presented it to the king, and described the nature of the place where he had found it. His Majesty

* Which would give a total of about 155,000 in all, so that if this account be true, and if it was the famous Asoka who is here brought forward, we may suppose that he only changed his capital for a while for a more healthy spot.

† I cannot find any thing in the Mahawanso respecting this wandering of Asoko.

‡ The eating of animal food had not then been prohibited.

sent there an *artist* to make a sketch of the temple, and the vicinity, and finding both inviting proceeded in person to the spot. He marched with a large retinue and arrived in seven days at a place where *water and fish were abundant*.* Next day he mounted his horse and reached the *Golden Sands*. Here he and his people were encountered by huge crows, which tried to drive them away. His Majesty during the ensuing night had a dream in which Devattas appeared to him, and said that underneath the temple were relics which had been deposited there by order of a king of Lanka. Next day the king directed people to dig into the Chaitya, but the crows (or spirits in their shape) compelled them to desist. The king therefore returned to his camp.

It is related that the younger brother of this Raja lived in Lansaká, and that sickness still prevailed amongst his own subjects. The son of the Raja died here, which added to his afflictions. A year afterwards the Maha Thera arrived at the camp, and the king having inquired from whence he had come, he replied that he had been engaged during the previous seven years, in the traversing various regions, disseminating religious instruction to their inhabitants.

His Majesty, again accosting the priest, observed that the spot where his camp now was had been found unhealthy, and requested that his lordship would favor him with the best advise as to where he should remove. The Thera then sprinkled holy water about the camp and the contagion ceased, and he afterwards advised His Majesty to remove and settle at the *Diamond Sands*. Accordingly Indra sent Maha Túli to attend to the wishes of Dhammásoka Raja.

It happened that at this time Raja Naga with seven heads and as many tails, guarded the Chaitya. But no sooner had the king, accompanied by Maha Túli and a large retinue approached close to it, that this mighty snake king was observed to be majestically disentwining himself from the huge folds with which he had encompassed the relic shrine.

As he wound off, he left a deep impression on the ground; which His Majesty perceiving, he directed stakes to be driven into the line at intervals, and it was within this circuit that he *subsequently founded a city*.

The king now ordered six thousand (6000) men to prepare bricks, and large parties to dig up the soil and clear away the forest.

* Some river or lake.

Dhammasoka reigned (or staid) quietly here for seven years ; but still mortified and unhappy because he had not been able to reach the relics, for he desired to place them in a more splendid Chaitya.

[I may here remark that the disinterring of relics appears to have been a favorite act of piety, and curiosity, combined, on the part of successive kings or dynasties.

In this way perhaps, the remains of many temples dedicated, if we are to credit the Chinese travellers Fa Hian and others, to the third Buddha or Kassapo, may have been swept away. At any rate many of the oldest Chaityas in honor of Buddha the 4th, the present one, may thus have been destroyed.]

"His Majesty accordingly offered a high reward to any one who should find the relics and disinhume them. But this proved of no avail."

I do not know what to think of the recital closely following the above. It is doubtless the same in the Pali, as names in it are preserved, at least Bali words according to Siamese pronunciation.

"It so happened that in this dilemma a Butrá or Putrá of the king of Róm, named Kakabhasa, who happened to be trading to the country of Takkasíla, encountered a violent storm. He had five hundred souls on board, who supplicating the gods, were rescued from death. The ship with much difficulty reached close to the *Diamond Sands*, and observing signs of population east anchor with a view to refit.

The king recollected of having once heard that the people of Róm were deeply skilled in working spells, and acting under the belief that they were, he asked the commander of the vessel to assist him in driving off the spirits which guarded the Chaitya.

The commander having adopted precautions by erecting a stockade at the mouth of the river for his own security in a strange region ; and having first had his ship repaired by his Majesty's artificers, prepared to exorcise the spirits.

The king now refrained from all food which was of the sorts not allowed to priests, dressed himself in white garments, and slept under a canopy of cloth, and indeed conformed to all the rules for proceeding on such occasions as is contained in astrological books."

When the procession arrived at the temple the crows began their attack, but the first charm set them to flight, and with them vanished

and departed all the other spirits. The relics and jars were then easily dug up along with the gold. The king inquired of the Roman if he might take the gold, when the latter replied that it should not be separated from the relics during their stay on the earth. To impress His Majesty with his veracity, he took a bambu four cubits long and thrust it into one of the jars, when many snakes instantly raised their heads aloft. He next took another bambu and pushing it into the same jar the snakes disappeared.

The king had prepared a temporary abode for the relics and jars, consisting of nine several successive stories.*

It was now determined to erect another Chaitya, and a spot for it was accordingly selected.

The ground for the foundation was a square of eight large cubits [48 feet each side] and it was excavated to the depth of eight cubits," [12 feet, for I suppose it to be the short cubit, as the large one is not mentioned.] "At the *bottom* of this foundation a small cavity was constructed of bricks and mortar two cubits deep" [breadth not specified, say 3 feet square], "and water tight (after being shut up).

When all had been arranged the two chief priests before named raised up the golden ship on their heads, while each poison vase was carried by thirty men. Then three priests, assisted by the Roman commander, consecrated the Fane, and deprecated wrath and every ill on the head of the sacrilegious wretch who should dare to molest the holy precincts. They prayed that the water in the reservoir should ever continue to float the golden ship, that the candles and incense should never cease to burn, nor the flowers to bloom, until the expiration of the five thousand years of the era of Buddha should have expired and a new era have begun. Thákhháphásá or Kákábhásá now directed all the people to remove to a little distance, after which he recited the one hundred and eight Bali invocations ; these being over, the spirits which had been scared away speedily resumed their posts."

I may merely notice in passing that the boat is the type of the earth, the Argha of the Hindús, or rather are we not to consider that they had it from the Buddhists, as the latter may have derived it either directly or indirectly from the Egyptians, amongst whom it was the cymbium.†

* Seven is the most common number.

† Indian Antiquities of Maurice.

Osiris, according to Plutarch, was the Commander of the Argo, and was represented by the Egyptians by a boat carried on the shoulders of men.*

This Ossa Navicularis, as Mr. Maurice observes, was carried at Egyptian solemnities by 80 men. Then there was the mystical boat of Isis, which according to Lactantius was adored in the same country. It was the cup of the sun in which Hercules they say traversed the ocean. The Suivi again worshipped Isis in form of a ship.†

A golden float, crescent-shaped, but less round, was an emblem of the ark.‡ Iswara is called Argha-natha or the Lord of the boat-shaped vessel.‡ There was also the Vitzliputula of South America, who was carried in an ark like Osiris and the Jurar of Peru boasted of their descent from the sun and moon, that is from Noah, and the ark worshipped in conjunction with these luminaries.§ Faber says that the ark was frequently described by the antients as the allegorical consort of the principal Arkite Deity.||

The Argha is with the Hindus a type of the Yoni, the cymbium of the antients, and in it were made offerings of fruits and flowers.¶ It means a cup or dish, boat-shaped, used for offering fruits or flowers to deities.* A third part of the worship of Bacchus consisted in carrying about an ark.†

A mare was a symbol of the ark, and we find a horse coupled with the relics in the excavation of one of the Chaityyas just described; a horse was one of the most usual symbols of Noah.‡

“The Phœnician word Aron denotes either an ark or a coffin. In scripture it is the ark of the covenant or a boat, which last was borne aloft on the shoulders of the priests exactly in the same manner as the Baris of the Egyptian Ogdoad.§ We cannot I think wonder at this last resemblance, seeing that Moses had just left the practice behind him

* As. Res. and other works—Wilford quoting Tacitus.

† Key to Hindu Chronology.

‡ Wilford.

§ Faber's Cabiri, Vol. I. p. 170, and Franklin quoting him.

|| Do. Do. p. 79.

¶ J. A. S. B. Vol. VIII. p. 274, et seq.

* Ibid, Vol. VI. p. 521, et seq.

† Faber's Cabiri, Vol. II. pp. 332, 333. ‡ Ibid, Vol. I. p. 100. § Ibid, Vol. I. pp. 226, 227.

in Egypt, unless we first doubt if he had fairly repudiated the God of the Egyptians. He retained many of their practices undoubtedly when they did not militate against his monotheism.

“But” observes this erudite author, “the ark was considered in the light of a coffin, as it was supposed to contain the *relics of universal nature*.” Here is a curious coincidence with the Buddhist custom just detailed by our Pali author.

The Malays of the Keddah coast of the present day use a painted boat at marriage ceremonies. The bridegroom and bride are placed in it, and it is carried in procession on the shoulders of men.

This seems to me to be clearly a remnant of their original worship, which I have found to have been chiefly that of Siva;* thus so far proving the connexion betwixt Mahadeva and the Argha.

The Arn Breith, or Car of the ancient Irish was, according to Faber, “the ark of the covenant.” The antients in memory of the ark carried about a small navicular shrieve, and sometimes even built their temples in the form of ships. Then we have the gothic Skidbladner, a ship,† and Col. Valency describes an ancient Temple near Dundalk in Ireland in the shape of a galley.

In the Bali work Milintha I find three kinds of religious edifices mentioned;—

Parib’ho’k’ha Chetí, built it is supposed at the spots where Buddha had halted during his jouruies for refreshment.

In these parts of Buddha’s dress and other things are kept as relics.

Dhattu Chetí, Dagobas, for the relics of Buddha, or shiral buildings,

Dhammá Chetí, being an edifice in which the sacred books were to be preserved.

The Chetí or Chaitya, is truly a Mausoleum, varying from a dome to bell-shaped, or to a truncated coue, or a building more or less pyramidal, and almost, perhaps, always, placed on a square pedestal. Where the type originated I will not pretend to say, but there is a wide field for conjecture in the regions of western mythology.

The Chettí, is the Manakyala,—the Tope, the Burj, Dagob, Dagoba

* An account of some of the Indo-Chinese nations (Journal of the Indian Archipelago) by me.

† Faber’s Cabin, Vol. I. p. 219, apud Coll. de rebus Hiber. of Vallency, Vol. V. p. 460.

of Sanscrit, the Dhatugurbha and the Sthupa. The *Triloca* makes it like a Drum, with a swell in the middle.

Tibetan Dagobas are generally square based pyramids, but some have conical and others circular bases.

In the Calcutta Journal for 1819, a writer (Manatho) states that the ruins of a mighty temple then existed near Mirzapore in the district of Benares, and that it seemed to be upon the same plan as the temple of Boro Bodor in Java. There were also two statues there. Query—Has this temple been explored?

In the Pali work *Ratana Kalapa*, we have under the head of Chetí or Dagobas,

1. Upachara Chetí, eight cubits (long ?)
2. Patimar D'hatú, 12 do.
3. Semo Sanghang, 4 do.
4. Uposatha, 11 do.
5. Chetí Buddho Dhatú, 16 do.

“When the foundation had thus been prepared a pit was dug (in front of) the Chaitya to the depth of four cubits and a half. Into this there was let down a pillar of stone six cubits long, about $1\frac{1}{2}$ measures [or 8 feet] of which remained above ground.* This upper part faced the *Esané* or north-east, and at intervals of a cubit, two other similar stones were placed in the same manner. Eight pillars were likewise erected around the temple so disposed as to correspond with the four cardinal points and their subdivisions.”

In the cave of Islamabad a Mausoleum was found in a compartment of the depth of three cubits, and three cubits in breadth or diameter. In it were images, a vessel of brass and two bones.† Thus proving that it was of Buddhist origin, although this does not seem to have been a Dagoba.

“A rod of iron was set upright from the centre of the offset of the intended spire, and the latter was then built around it. The whole building was composed of brick and mortar, and was plastered with stucco. The total height of the Chaitya was upwards of thirty-six large cubits [200 feet.]”

It is rather singular that the Indo-Chinese Buddhists yet persist in

* I am not quite satisfied as to these measurements, they are stated rather obscurely.

† As. Res. Vol. IX.

this dangerous custom of supporting one half only of their Dagobas with iron rods, and this too while they have learned enough of science as to lead them to place on the pinnacles of these rods small glass phials as nonconductors. Their preservative properties would I should suppose be of small amount.

“The stucco having been put on the Dagoba was gilded from top to bottom, and the four chief priests constructed eight figures of Arahán (the head of a powerful Buddhist sect), and placed them in the area of the temple in the attitude of adoration of Buddha. Representations of elephants were likewise made and fixed with their heads directed *from* the temple.”*

“The Prince of Rome now set sail and departed.”

“When the people of the neighbouring countries heard of the fame of this new Chaitya they flocked to it in order to make offerings. They came in carriages and on elephants,” (and in other ways) “and some even cast gold under the ground for those who should afterwards find it. The Princes of these states also brought their offerings, and before departing they erected small Chaityas, but not having any surrounding pillars (*pariwenas*.)

“The king of Lanka being desirous of knowing what had become of the temple at the Diamond Sands, despatched P’halítí and Phálábúi, who were men of rank, to that place. They were provided with gifts of gold, silver, and precious commodities for Dhammásoka Raja.

When they had waited upon this king they acquainted him that the two young Princees of Lanka had quarrelled at a *cockpit where white men were present*, (probably Turks or Arabs,) and that both had died of the wounds they had received, and their father the king had sent their ashes and bones with a request that His Majesty would allow these to be disposed of thus. They were all to be pounded up with mortar into a paste, and of this two busts or images were to be formed, one of Phrá Sri Dhatta” [or Buddha, when a Prince,] another of his consort Bhimb’ha, and a third of his son, Rahúra. Two figures were also to be made resembling the deceased Princees, one of which would occupy the right hand, and the other the left hand of the image of Phrá Sri Dhatta. They also expressed the king’s desire, that an

* I shall also given along with these fragments of Indian History, a few notes respecting Buddha and these Arahans, or Arahats.

image of Buddha of the same materials, and one of each of the two descriptions of lions, should be formed, and that the before mentioned images having been added to them the whole should be placed in a Vihan or temple to be specially built for the purpose, and that when all this had been effected, the circumstances should be recorded upon a tablet of stone. To these requests Dhammāsoka readily assented and they were accordingly complied with."

It was a great oversight of the Buddhists when they first admitted images, not of Buddha, into their Vihans. I say not of the 4th Buddha, for his statue must have been coeval nearly with *his* worship, and it is probable that statues or images of previous Buddhas existed. Although as he had been a Prince and a mortal his votaries could hardly have required to be so reminded. I am not aware of the precise period when subsidiary images were introduced, but I suspect that if Buddha had, as Fa Hian's account would imply, and the Buddhist scriptures forcibly insist on an immediate predecessor (Kassap'ó,) whose Chaityas were even then extant, the admission of such images most probably took place before Sakya Muni appeared.* In whatever manner, or at whatever period it really happened, the existence of any images in the temples beyond those of Buddha, no doubt greatly helped the Brahmans, not only when they began to scan the path to hierarchical pre-eminence, and to sap the foundations of Buddhism, but when they eventually had established a body of heretics or schismatics within even its own Vihans ready to tolerate if not to adopt a more extensive polytheism, and thus to render the final subversion of Buddhism easy and certain.

* In the gorgeous description contained in the Pali Mahawanso of the relic receptacle of the Mahá Sthupo. "At the farthest points of the four sides were represented (depicted) the four great Mythological Kings [Query—*Heroes apotheosized?*] Dattarattho, Virulo, Verúpakkho and Wessawanno, also 33 Dewos and 33 Princes, 28 chiefs of Yakkhas. This was in B. C. 127. These were subordinate to a golden image of Buddha, and near to it stood one of Mahábrahmá, bearing the parasol of dominion. (One) of Sakko, the inaugurator with his Chank, Pinchasikho with his harp in hand, Kalanago and his band of singers and dancers, [which however priests are forbidden to listen to or to look on,] the hundred armed Maro (death.)¹ The description of the relic chamber, however, differs from the accounts which have just been given, in which last the relics are placed deep under ground for the sake of concealment, apparently, whereas in the Mahá Sthupo they were enshrined in a receptacle considerably above the level of the ground.

1 Turnour's Mahawanso, transl. p. 182.

In the various accounts above given in the text of the erecting of Chaityyas we cannot fail to remark the care taken on every occasion to record religious events on stone or metal, and these accounts would have been some proof of this custom even if we had not known of the numerous Buddhist inscriptions, which are extant, especially those of the very Prince last named, Asóka [unless there were two of that name] which have of late years been brought to light by our indefatigable orientalists in India.

“After a while Phrâ P’hutthi Monthéan, a holy priest of Buddha, arrived from Lanka in a vessel bringing with him a pipal tree, which he privately planted unknown to anybody. Another personage after this sailed to the Golden Sands, but was wrecked there and lost most of his effects. But he built a Chaityya and a Vihan before he departed.” [The Siamese call him Nai song chóm.]

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*Narrative of a Journey to Cho Lagan (Rákas Tal), Cho Mapan (Mánasarówar), and the valley of Pruang in Gnari, Húndés, in September and October 1846. By HENRY STRACHEY, Lieut. 66th Regt. Bengal N. I.*

Askot—10th September 1846.—At this place I met two fakirs late from Mánasarówar. No. 1, a surkhi-colored *Sunyási*, deponeth that walking over Lípu-Dhúra into Taklákot, he was forthwith apprehended, abused, beaten, and put in confinement for that night: the next morning he was brought up and scrutinized before the Sirdar of the place, who at last allowed him to proceed on his pilgrimage, but under the surveillance of a *Hunia*,\* who accompanied him to the lake, whence he was marched straight back again after performing his ablutions, permission to make the *Parkarma* (religious circuit), or to go on to Kailás, being steadily refused. The *Sunyási* was rather an intelligent, smart and decent looking person; which qualities, I presume, rendered him the more obnoxious to the “suspicion of being suspected” for a Sikh or Feringí spy; he was also guilty of a fine black beard—a distinctive mark of the “out-side Barbarian,” which the Hunias of Guari have held in great fear and aversion ever since the invasion of

\* An inhabitant of Húndés.

their country by the bearded Sikhs in 1841. The hurried way in which deponent was hustled through Pruang prevented his observing anything worth record.

Fakir No. 2.—A *Jogi*, black with dirt, and half fool; he accordingly met a better reception than the *Sunyási*, and was allowed to extend his pilgrimage to Kailás without hindrance; yet he was a year in Byáns before he could effect his entrance into Pruang; for last season there was an absolute interdict against all Fakirs, and a companion of the *Jogi* then returned in despair, without accomplishing the object for which he had come from the uttermost parts of India. Deponent says that Hundes is a “*Bakut sundar jagah; per nahín,—ghás nahín,—siwá pathar aur baraf kuchh nahín!*”<sup>\*</sup> beyond which he can give no lucid information.

These pilgrims are said to be the only two who have succeeded in reaching Mánasarówar, viâ Byáns, during the last two years;—encouraging for me, the third!

*Kela, 15th Sept.*—15 days from Almora, might have been done in 10, but for the great heat in the low vallies and a touch of sickness (partly caused by that) which precluded much exertion, detaining me also three days at Petoragarh. The valley of the Káli proved not quite so bad as my apprehensions; the first part is certainly low and hot enough, the jungle dense and rank in the extreme, grass and wild hemp ten feet high, through which we had to butt, heads down, in places where the path had not been cleared; Sal, Sissoo and Toon trees, with wild Plantains and Cucumbers, denoting a very tropical climate. But this does not extend much beyond the middle of the second stage; at Dhárchula, (2750 feet above the sea, b. t.), the valley expands into a pleasant level, well cleared of jungle, and cultivated with rice. The scenery hereabouts is fine, the valley flanked by noble hills, on the west side by the base of Chipulá. Thence on to Kela is not quite so clear and open, but the ground rises gradually into a cooler climate; the road all the way easy. Relagárh, a ravine with a small stream, forms the boundary between the *Rájbari* of Askot and the district of Kela.

The village of Kela comprises a good extent of well cultivated land, terraced out of a huge hill side that rises in a steep uniform slope for

<sup>\*</sup> i. e. very beautiful place, no trees, no grass, nothing but rock and snow.

thousands of feet above the confluence of the Dhauli or Gori (the river of the Dárma valley), with the Káli; the houses, or huts rather, seem very few and mean. The opposite side of the valley in Dóti,\* is of the same character.

Here I find Durgá Datt *Patwári*,† (Governor, that is,) of Kela, Dárma, Chaudáns and Byáns; one *Khasia*‡ and three *Bhótia* districts, containing altogether some fifty villages—on a salary of five rupees per month; an *erratum*, one would suppose, for fifty.

The *Patwári* informs me that there has been a murrain among the cattle in Dárma this year, which has carried off all the kine, and half the goats and sheep; from the reports which have reached him, he judges that there are not a dozen *Zhobus*§ left in the whole of Dárma, and that I should probably be unable to get half that number for my expedition across the snow. Láta, *Budha*|| of Baund, a village of Dárma, reported that they had 52 head of cattle in his village last year, and the murrain has destroyed every one of them. The danger of infection still lurking in the villages precludes the introduction of fresh stock from Húudés this year. Under these circumstances I must abandon my intention of going through Dárma, as a few baggage cattle are absolutely indispensable for a prolonged expedition across the passes, in which, as we have to avoid villages and inhabited places, myself and party must subsist solely on what provisions, &c. we can take with us. They say also that the road up to Dárma is in a very bad state, and in one or two places rendered all but impassable by landslips; not that it becomes me to be particular in that respect; my difficulties lie the other side of the snow.

I had expected to get a tent from the Bhótias here, but I am now told that the people of Dárma and Byáns have no such luxuries, being content with what shelter they can extemporize with blankets amongst their *Karpach* (sheep saddle bags).

\* The Province of Nipál which borders on Kumáon.

† Superintendent of a district in Kumáon.

‡ The Hill-people of the lower Himálaya.

§ The cross-bred kine between the *Yak* of Tibet and the Indian cow.

|| Commonly pronounced Búrha, the Headman of a village, or more frequently, a set of villages. This term is equivalent to Kumin, Syána, and Tokdar, and is chiefly used in the eastern Pergunnahs of Kumáon. The tenure connected with these titles is called Búrha chári, Kumin-chári, &c.



The *Jwáris*\* have very fair tents, of cow-hair cloth, in one of which I found good accommodation (for myself and half a dozen Bhótias) in my expedition across the Jwár Pass, last June. The Byánsis certainly have less need of these things, as their traffic lies mostly among the villages of Pruang, and but a short distance from their own homes. Tent, or no tent, I now proceed through Byáns, going by Kunti and the western pass, thence making the lakes (if nothing go wrong), and returning through Pruang, by Lípu Dhúra, the eastern pass, into Lower Byáns. My first plan had been to go by Dárma and return by western Byáns, in order to see both of the Bhótia valleys; but the season is now so far advanced, that unless my journey on the other side were curtailed of its fair proportions, there would be an even chance of my finding the Western Ghat of Byáns impassable from snow, by the time of my return, whereas Lípu Dhúra will be safe probably, for the next month or two.

Patwári says that the remnant of the Sikh invaders of Gnari, who made their escape into Kumáon, came over Lípu Dhúra in the month of December 1841. All the other Gháts would have been absolutely impassable at that time of year.

Receive a letter from Hirdu Budha, Thokdár† of Chaudáns, to the effect, that hearing I am going to Dárma, he requests that I will abandon that route and come his way instead; no reason whatever is offered for the said request. But the Patwári explains that the Bhótias of Dárma, Chaudáns, and Byáns have heard that the *Sáhíb Lóg* frequently drop a good deal of money in visits to Jwár and Niti,‡ and often ask him why he does not exert his influence to bring part of this lucrative traffic their way.

16th September.—Descend from Kela, cross the Dhauli (now unfordable) by a *Sánga*,§ and enter Chaudáns, up a long and steep ascent, the distance from Kela to Titila, though no more than  $4\frac{1}{2}$  miles by the Map, occupying me  $5\frac{1}{2}$  hours, of which half an hour may have been rest. The hill enveloped in clouds, and myself drenched with mist and rain, I could see little or nothing of the coun-

\* Inhabitants of Jwár, the Alpine valley of the Góri.

† Head of a hill district.

‡ A village of Garhwál giving its name to one of the passes into Tibet.

§ A timber-bridge of a construction common in these mountains.

try, but an entire change of climate and botany indicates a much higher elevation than Kela, and to my great relief, rice cultivation has disappeared. Hirdu Budha tells me that nothing now remains of the old Fort, if ever there was one, (the Titlakot of the map) on the top of the hill, one or two hundred feet above the village of Titila.

The people of Chaudáns are all Bhótia, carrying on a limited traffic with Pruang viâ Eastern Byáns.

On the road to-day I met many Dunáls, men of Dúng, a *pati* or subdivision of Dóti opposite this, bringing salt and borax from Byáns. They are not Bhótia, but Khasia, i. e. people of *Kias-des*, which in days of yore included all the hill country of which the inhabitants were of mixed caste, and impure to the genuine Hindus of Lower India; but the Khasias themselves now rather affect to reject the name, and pass it on to the Bhótias, who bear much the same relation to them, that they do to the pure Hindus, the Bhótias being a cross-breed, probably, between the Khasias and the Hunias of Húndés.

Thermometer at 5½ p. m. 58°, boiled at 198°. Elevation of Titila 8000 feet above the sea. The village of Sosa is some 250 feet lower. Rain at night.

17th September.—Leave Titila, and after a march of 4½ miles by the map, occupying near 6 hours, encamp on the Syankwangárh, now a considerable stream, under the village of Bunbun, at the foot of Rholing-Dhúra, the crossing of which constitutes the greater part of this march. The ascent is long but easy, probably three thousand feet in perpendicular elevation, though the summit of the pass may not be more than 2000 feet higher than Titila (owing to some intermediate descent of the road), or 10,000 feet of absolute elevation. The whole hill is clothed with very fine forest, mostly Horse-chestnut trees, with undergrowth of *Ningála* (*Arundinaria falcata*?) much resembling that on the Munshári side of Kálámundi,\* on the road from Girgáon, (the summit of which is 9200 feet above the sea,) and these two are by far the finest specimens of forest that I have met with in these hills; the Horse-chestnuts being tall, straight and clean timbers of considerable size. The north side of Rholing-Dhúra is of the same character as the south, with a descent of some three thousand feet to Syankwangárh. My encampment here may be 750 feet lower than Titila, i. e. 7250

\* A pass and range between the valleys of the Gori and Rámangá.

feet above the sea, and the village of Bunbun a little above the Gárh, 7500 feet.

Thermometer 60° at sunset. Thick clouds and mist all day, rain at night.

18th September.—Morning so rainy that my companions advise a halt, to which I object; leave Syankwang, and in three quarters of an hour reach the village or hamlet of Gala, 1½ miles distant, where, after all we are stopped by the rain, which increases with promise of continuance, and the Nirpania-Dhúra ahead is said to be steep and very troublesome in foul weather.

Gala is a mere hamlet with two or three houses, at present uninhabited, and a few fields cultivated by the Zemindars of Rúng, a neighbouring village. The vacant cottages accommodate myself and party much better than the *cutch* hunting run up for me at Syankwang, which would have been miserable quarters indeed in this weather. It is fortunate that I would not take the advice of my friends to stay there this morning.

Thermometer outside at 4 P. M. 55°. I judge the elevation of this place to be about the same as Bunbun, 7500 feet.

The rain continues all day and all night without intermission.

19th September.—Still raining and the whole hillside completely enveloped in cloud.

Sumhyáki, son of Hirdu, the Tokdar, who has accompanied us from Titila, with laden sheep, &c. for Pruang, objects to proceed in such weather as this; so do I. We heard the sound of a considerable landslip somewhere in the vicinity this morning. In heavy rain the passage of Nirpania-Dhúra is rendered unsafe by showers of stone, which it is difficult to see and avoid when the air is obscured by mist.

Patwári Durgá, a well educated man in the Hindu fashion assures me that *Híúndés*, the “snow country,” is a mistake, originated if I remember rightly, by Professor Wilson, and since currently adopted.

The true name is *Húndés*, हुण्डेश, from हुण, the “*Hun*,” aboriginal inhabitants of the country north of the Himálaya, and not derived in any way from हिम, *Him*, snow. Mention of the country and people is to be found in the *Mahábhárat*, *Márkandya Purána*, and other of the Sanskrit books which treat of the mythological history of this part of the world: both *Hun* and *Tátár* appear as allies of the “*Rákshasa*,”

(now *Rákas*) in their battles with the gods or demigods, about the Indian Olympus, Kailás. The great Hungarian scholar, Csoma de Kőrös, I have heard was endeavouring to trace the origin of his own nation, the European Huns, in this quarter.

Our word *Tibet* (of which *Thibet* is a gratuitous corruption) was introduced to Europe I believe by Marco Polo, and to India probably by the Mahomedan invaders and rulers from the North; it appears more than once in the Geographical statements of Abul Fazl, Ayin Akbary; and the word is probably of Turki origin, "*Tibbit*," being the term now in use with the Usbeks of Yárkand for *Pashm*, the wool of the shawl goat. I am not aware of any authentic instance of the acknowledgment of the name Tibet by the natives of the country. Turner says distinctly that it is called by the inhabitants "*Pue*," or "*Pue-Koachini*," i. e. snowy region of the North. "The land of Tiburut," in the letter of Soopoon Choomboo to Warren Hastings, dated 16th November 1781, (Turner, Appendix III.) is clearly the work of the Persian translator, whose style is conspicuous throughout that composition; and Turner's allusion (in a note to his introduction) to "the pronunciation of this name in Bengal, *as well as Tibet*," though seeming to imply the use of the word by the nations of the latter country, may with probability be ascribed to the same origin as Soopoon Choomboo's expression, as it may be observed that Turner frequently applies to persons and things of Tibet Hindustani names which must have been derived from his interpreters. Continued rain all day and night.

*20th September.*—This morning looking a little clearer, or not quite so foul, I prepared to start, but by the time we were ready the rain had set in again as hard as before, and put a stopper on the intended move.

Weather continued bad all day, but towards sunset, the dense envelope of cloud and mist began to break a little, disclosing glimpses of blue sky, also of a very dismal looking snowy ridge to the east, Namjung and Lingarn, inferior spurs of the great mountain Ápi, on the opposite side of the river. A fine starlight night succeeded, with unclouded sky, inspiring hopes for the morrow.

*21st September.*—Fair weather at last, and we resume our journey. I did not find the passage of Nirpania-Dhúra quite so troublesome as the accounts of my native guides had led me to anticipate, but a little experience of this part of the Himálaya soon accustoms one to very

queer places. The ascent is tolerably steep, the path mostly in steps, but in good order. The proper name of this ridge appears to be Gala, a base-spur from the snowy mountain, which the map (incorrectly I believe) calls Gnla-Ghat; the eastern extremity of it where crossed by the road, is subdivided by two shallow ravines into three minor ridges, the first from Chaudáns, called Yergnáchim; the second Birdong, thence is a good view into the valley of the Káli up to Budhi; and the Bird Tyungwe-Binaik, which is the boundary between Chaudáns and hyáns: these differ little in height, and may average 3000 feet perhaps above the village of Gala, i. e. 10,500 feet absolute elevation above sea level. The name Nirpania\*-Dhúra has been applied to this hill by the Khasias, because, in dry weather, no water is to be found on it, and the ascent is rather thirsty work. The ascent of Nirpania from the south merely leads to an equal descent on the north side, some 3000 feet down to Golám-Lá, this side of the Najangár; and the path here is, if any thing, steeper, in narrow steps all the way, looking rather precipitously into the bed of the Káli, which is many thousand feet below. The summit of the pass must be near a mile in perpendicular height above the river. Half way down to Golám-Lá is a small resting-place for goats, &c., called Dandanhýár, a miserable little ledge on the hillside, in a jungle of wild hemp, dock, and nettles. The hill is too steep and rocky to be very well wooded, though it is not deficient in vegetation. I observed some indifferent specimens of Silver Fir, (*Picea Pindrow?* or *Webbiana?*),† by the Bhóteas called *Woman*, with the exact pronunciation of that English word.

Cypress (*Cupressus torulosa*), by the Khasias called *Saro*, by the Bhóteas *Tangshin*, a name which in other districts I understand they apply indiscriminately to any tree of the Fir or Pine species.

Yew, (*Taxus baccata*), Khas: *Thunir*, Bhot: *Nhárey*.

Birch, (*Betula bhojpatra*), Bhot: *Shak-shin*.

Rhododendron, (*R. campanulatum*.) Khas: *Buronj* or *Buráns*, Bhot: *Tak-shin*.

Bamboo-cane, (*Arundinaria falcata?* Khas: *Ningála*, Bhot: *Kwey*.

\* "Nir," without; "pani," water.

† For the few Botanical names mentioned in my Journal, I am indebted to Major Madden, of the Artillery, at Almora; but mistakes in the application of them (if any) are entirely my own.



Sycamore, (*Acer Sterculiaceum*,) Khas : *Kamiah*, Bhot : *Kan-shin*. From the knotty parts of this tree, they make the coarser sort of tea-cups used in Hundes and Bhot,\* termed *Lahauri Doba*; the better sort, *Talua Dola*, are made from the *Patgnalia*, another of the maple tribe (*Acer oblongum*), which grows on the Southern hill ranges, such as the Gágar,† &c., and is very abundant at Naini Tál.

White Dog-rose, (*Rosa sericea*,) Khas : and Bhot : *Sephala*, the leaves of which are rather fragrant, like sweet Briar, the fruit a large round Hip, edible, (but not worth eating.)

A ground-Raspberry (*Rubus nutans*) Bhot : *Sinjang*, and the fruit *Sinjang Lo*, orange-coloured, with a pleasant acid flavor; the plants I saw grew on the ground like strawberries.

An Orchis (*Satyrium Nepalense*) Bhot ; *Phung*, with small rose-coloured flowers rather fragrant; the Bhotias sometimes eat the root, raw or cooked.

On the descent of Nirpania, I saw some monkeys which the Khasia Hindustanis of my party asserted to be the same as the *Langúr* of the plains. I venture to doubt this, as these animals, (Bhot : *Kholi*) appear to have tufts at the end of their tails, and make a grunting noise, unlike what I remember of the *Langúr*, though otherwise they are much the same.

The march from Gala to Golám Lá, not more than 5 miles on the map, took us near 6 hours, exclusive of stoppages for rest, &c.

Golám Lá, a mere eucamping-ground, marked by a large (Gneiss) rock standing out of the hillside, overhangs the confluence of the Nájan-gár with the Káli, which is from 1,500 to 2000 feet below; the declivity almost precipitous. The Nájan-gár comes from a great snowy mountain visible through the head of the glen; this is marked Gula-ghat on the map, but Sumhyaki, Sayána‡ of the Titil-sosa, calls it Yirguajang, which has some affinity to the name of the river rising from its base. The Nájan-gár is a most impetuous torrent, falling in cascades rather than rapids, over a very steep rocky bed, through a deep ravine flanked with precipitous mountains.

Steep and lofty mountains rise immediately on the East side of the

\* Cis-alpine Himálaya, inhabited by Bhótias.

† The outer high range in Kumáon proper, overlooking the plains.

‡ (Sage.) Head-man of a hill village.

Káli, reducing the valley to a mere gigantic ravine; which is the character of it, in fact all the way from Relagar. Opposite to the Nájan-gár, an inferior spur with a little comparatively level ground on its top, affords a site to the village of Thin, now apparently deserted. Behind this rises the ridge of snow seen from Gala; Namjung, on the left, close over the Káli, and Lingaru to the right, some 18,500 feet high. The great Peak of Ápi behind, though 22,799 feet in height, is quite concealed by the proximity of its lofty base. The Thampagár, immediately south of the hill of Thin, rises from a glacier under Lingaru, plainly distinguishable from Golám Lá, by its form, dirty color, and situation below the lowest limit of the snow which lies on the ridge above.\* These glaciers are well known to the Bhotias, under the term *Gal*, a *non gal-endo*, perhaps, as they never melt like the superior snow.

The Peaks of Byáns-Rikhi I think, are visible up the valley of Byáns: only partially snowed though near 20,000 feet in height, which is owing to the steepness of their rocky summits, I imagine.

Clouds and a little rain in the evening; Thermometer at sunset 60°; night fine.

22d September.—Morning fair, Thermometer at 7½ A. M. 52½°; boiled to 198°; elevation of Golám Lá 8000 feet. The village of Thin, on the other side of the river, is about the same height.

Leaving Golám Lá, we descend a thousand feet or so, by a steep path, and cross the Nájan-gár, by a small Sága, a mile above its confluence with the Káli. The stream is unfordable at present, rather on account of its great fall and rapidity of current, than for the volume of water; in the mile between the bridge and the confluence the fall must be 500 feet. The path continues, often in steps, and rather precipitously, round the shoulder of Pomayyar, a base-spur from Yirgna-jang, thence descends and crosses the Málpagár, a small fordable rapid, close to its confluence with the Káli. Just above this point, on the side of Pamayyar, is Jambe-Odyár, a large cave, said to be capa-

\* It is surprising that the existence of these Himalayan Glaciers, with which the snowy range here *abounds* in all directions, should be questioned or doubted even now, in the 30th year of British possession of Kumáon; it is equalled only by the perpetual snow line on the southern face of these mountains being fixed by Humboldt at 11,700 feet, an elevation at and above which we have luxuriant vegetation, and flourishing agricultural villages.

ble of giving shelter to five hundred laden sheep and men in proportion ; being out of the way I did not see it. Another great ascent from Málpagár ; the path still precipitous and in steep steps, along the side of Chantirong : the summit, Umdognyir, a minor rocky projection not half way up the mountain side, reaches an elevation of 9,500 feet perhaps, some half a mile vertically above the river. Thence a descent again, not over easy, to the bank of the Káli, a mile or two along which brings us to Lámáre, a small level encamping-ground, close on the river side, with boulders of rock, (*Lá* ?)

The Káli here may be 100 feet across and looks as though it would be fordable but for the violence of the current.

A man from Kunti says that snow has fallen in his village lately, and that the Kunti passes have probably got more than enough of the same.

This day's march, about 5 miles by the map, occupied me  $6\frac{1}{4}$  hours, besides half an hour for rest, &c. In the lower parts of the ground, near the bed of the river, I found the sun very hot.

Thermometer at sunset  $61\frac{1}{2}^{\circ}$ , boiled at  $198^{\circ}$ , (same as Golám Lá) elevation 8000 feet ; evening cloudy with a little rain.

23d September.—Leave Lámáre, path easy, ascends a little, and continues above the river bank under the side of Yirtáshin ; a mile on crosses a small gár,\* the Takti, and at two miles descends to the Palangár, a considerable rapid crossed by a Sánga near its confluence with the Káli. This gár comes through a deep ravine from Tokong, a snowy ridge, of which the opposite side gives rise to the gár of Shela in Dárma, and there was once a pass this way, but dangerous, and disused since lives were lost there some years ago. This Tokong must be a secondary spur from Yirgnajang, the Gula Ghat of the map.

The valley of the Káli now expands a little and gives site to the village of Budhi, (the first and lowest of Byáns, and the single village of Sub-Alpine Byáns, as it might be termed) on the right bank, above the confluence of the Palangar. Here I see a good-sized Walnut tree (*Juglans regia*) by the Bhotias called *Kás-shin* ; a large Barberry, Khas : *Chotra*, Bhot : *Náchi-shin* (*Berberis aristata*), fruit worthless ; sweet red-flowered Buckwheat (*Fagopyrum vulgare* ?) Khas : *Ogal*, Bhot, *Palti*, and the bitter white (or yellow) flowered sort

\* Mountain-stream.

(*F. esculentum* ?) Khas : *Phápar*, Bhot : *Bhey* ; Turnips, Khas : *Salgam*, Bhot : *Chankan* ; Amaranth, red and white ; and Tobacco in flower. The above crops are well advanced but not quite ripe yet : the two last (Amaranth and Tobacco) do not grow above this.

The people of Budhi are all Bhotias, but in site and climate the village belongs rather to the Sub-Alpine regions, like Chaudans, though it lies north of the great snowy mountain Ápi. Its elevation is 8750 feet.

Immediately above Budhi a steep hill ridge advances from the mountain side on our left (N. W.) and extends across the width of the valley, leaving but a narrow passage for the river, close under the mountains on the opposite bank. The ascent, though considerable (some 1750 feet) is tolerably easy, by a fair smooth path, much better than any part of the road this side of the Dhauli, the lower boundary of Bhot, in this quarter. The summit, Cheto Binaik, at an elevation of about 10,500 feet, is the entrance to upper Byáns.

On the ascent of the hill some alteration is apparent in the style of vegetation ; new species of Fir and Pine take the place of other trees, and the undergrowth of weeds, &c. diminishes. At the top the change of scenery and climate is complete, sudden and most agreeable, from the narrow dark ravine of the lower Káli, with its damp and stagnant atmosphere, to an open sunny Alpine valley, with a fair expanse of comparative level. The lower parts of the valley towards the river are occupied with villages and cultivation ; thence forests of Fir, Pine, and Birch, slope up to the base of the surrounding mountains, which rise on all sides in noble castellated walls of rock crowned with snow, and towering into the clouds ; the extreme snowy summits are hidden by the prominence of their lofty outworks. If perfection of climate and scenery could compensate for inconvenient seclusion and uncivilized condition of its people, this place would afford a most delightful summer residence ; the top of the hill, or the northren slope of it facing the Bhótia valley, would give many fine sites for a house or standing camp.

A gradual descent leads over sloping upland clothed with fine close turf, on which Chanwrs\* and Zhobus are grazing ; then through clean open forest of silver Fir (*Picea Pindrow* or *Webbiana*, Bhot : *Woman*, and Pine (*Pinus excelsa*) Khas : *Raisalla*, Bhot : “ *Lam-shin*.”

\* Indian name for the *Yak* of Tibet.

Weeds and jungle give place to flowers and neat shrubs; a fine Larkspur; Juniper (*Juniperus squamosa*) Khas: *Padbank*, Bhot: *Pámá* (in Jwár they call this *Bil*); another sort of Juniper with sharp thorny leaves exuding rank turpentine, (*J. religiosa*) Bhot: *Lhálá*, a willow-leaved shrub, the branches covered with small round yellow berries, a strong (edible) acid, (*Hippophaë salicifolia*) Bhot: *Tárwa-chuk*.

The road passes through Gárbia, the first village of Upper Byáns; the houses are mostly two-storied but ill-built affairs, and disfigured with a quantity of poles stuck about them (for ornament or superstition?) in all directions; they are flat-roofed. The elevation of Gárbia is, according to Webb, 10,272 feet.

The fields here contain Barley (*Hordeum cœleste*) Khas: *Ua-jo*; Bhot: *Chámá*; Wheat, Bhot: *Náphal*; Turnips, and the two Buckwheats, all ripe or ripening.

A little beyond Gárbia stands the remnant of what was once the village of Chindu, now one or two houses, and a few fields, standing on the top of a narrow shelf of ground which the encroachment of the river is fast driving to the wall of rock behind. The base of this valley (like that of upper Jwár) is formed by an accumulation of old alluvium and debris from the surrounding mountain-sides, in strata of considerable aggregate thickness and loose consistency; through which the river appears to have cut its present channel, three or four hundred feet below the site of the villages, and to the great danger of those which are too near its bank. The Cheto hill above Budhi is in fact the abrupt termination of this elevated bed of detritus, forming southward an acclivity of 2000 feet or more (in vertical height); to the east and north-east, where the river breaks through, it appears in cliffs and landslips many hundred feet high.

From Gárbia the road descends to the bed of the river, and crosses by a substantial Sánga, a little above the confluence of the Tinkar, which is a large stream (not much inferior to the main body of the Káli) coming in two branches from the east and north-east.

We encamped on level ground by the river side, a little above the bridge and under a steep bank, on the top of which is the village of Changrew.

The Káli now turns abruptly to our left (N. W.), through a defile of steep rocky mountains, the natural grandeur of which is raised to sub-



limity by the veil of clouds that obscures the more distant and lofty parts, and so increases the apparent magnitude of the whole.

Thermometer at 4 P. M. 60°, boiled at  $194\frac{1}{2}^{\circ}$ ; elevation 10,000 feet. Changrew perhaps may be at the same height as the summit of Cheto Benaik, 10,500 feet.

The Bhótias of Chaudáns, who accompanied me thus far, here took their leave. I found them a civil and cheerfully working set of people, and had no trouble whatever from them. Sumhyaki is a stout, amiable and modest youth, deserving of more encouragement than the bottle of rum and handful of tea which I was able to give him. The men of upper Byáns were assembled to relieve the Chaudánsis, and equally ready to give every assistance, with Zhobus, ponies, and porters for my baggage.

Patwari Durga Datt having inducted the *Buddhas* and *Sayánas*, old and wise, into some idea of my designs on the lakes, they volunteered assistance, but also their own plan of operations, which after much discussion, I was obliged to reject as incomplete and unsatisfactory, their idea being to smuggle me past Taklakhar to Mánasarówar, and thence straight back again, which would involve much risk of stoppage on the way out, before reaching the Lakes at all, and leave Rákas Tál, and its communication with the Sutlej (if any) unexplored. Not till late in the evening, I got hold of the right man, Rechung or Rechu, Padhán of Kunti, from whom I derived information which decided me in adhering to my original intention of going his way. According to Rechu, there are two Passes at the end of the Kunti valley; Lánkpya Dhúra, on the extreme North West, and Mankshang, a little lower down and more easterly; both of them affording direct communication to the South and West shores of Rákas Tál, and round that lake, either way, to Mánasarówar, without passing through such populous places as Pruang. The Lánkpya Pass, in Rechu's opinion, is not stiffer than the "Lípu Lekh" of eastern Byáns; though he can't speak to the state of the snow upon it at present, as none of his people have crossed the pass since the bad weather, in which snow fell in the village of Kunti, and which proves to have been identical with the continuous rain which detained us at Gala on the 18th, 19th and 20th instant. The Kuntiyáls are the only people here who know any thing at all about the passes of western Byáns; all the other Byánsis are

absolutely ignorant, even of the names of the Dhúras,\* their traffic lying almost exclusively with Pruang viâ the Lípu Pass, which is a more convenient route for all the lower villages.

Thermometer at sunset 56°; clouds and a little rain at night.

24th September.—Thermometer at sunrise 47° (water the same temperature); weather fair.

The Bhótias being rather dilatory in mustering one or two requisites that I want for the Passes and Húndés, I have to halt this day.

In the morning I paid a visit to Changrew, up a steep hill, which forms a sort of elevated terrace at the foot of the great rocky mountain Kelirong, within the angle made by the confluence of the Tinkar with the Káli. The acclivity is clothed with Pine, Juniper, Dogrose, &c. &c. Changrew is much the same sort of village as Gárbia; its elevation, according to yesterday's estimate (500 feet above my camp on the river bank) 10,500 feet; it is unfortunately situated on the top of very unsafe ground, which is gradually descending by a huge landslide into the bed of the Tinkar, every year carrying away some yards of the village lands. The Tinkar below, is a good sized stream, at this time of year requiring a sánga for the passage of it. Six or seven miles up this river, and under Kelirong, is the village of Tinkar, and beyond that a pass of the same name (here at least,—the Dhúra probably has a proper name of its own), which communicates with Jidikhar, one of the villages (and as the "*Khar*" imports, once a fort) of Pruang, on the Karnáli, a few miles below Taklakhar. A mile or so above its termination in the Káli the Tinkar receives a tributary of some size, the Nampa-gár, which comes from the East and South-East out of two glaciers, the Southern one visible from Changrew, at the base of the snowy mountains Nampa and Ápi. Changrew and Tinkar belong geographically to Byáns, and are inhabited by Bhotias, the same in every respect as the other Byánsis, and sharing in the traffic with Pruang by the Lípu Pass. It was a mistake leaving this little valley to the Gorkhas, when the rest of the district was brought under British rule; the true frontier line was the range of snowy mountains on the East, Tinkar, Nampa, and Ápi, on the other side of which lies the district of Márma, the northernmost division of Dóti, and the inhabitants of which, like those of Dúng, next south, are Khasia and not

\* Dhúra—a high mountain-pass.

Bhótia. A case occurs on the opposite frontier of northern Garhwál, not unlike this of the Tinkar valley, but otherwise disposed of. "Nag-poor occupies the Dooab between the Mundakhnee and Alakmunda, branches of the Ganges uniting at Roodur-Pryág. From Tirjoo-ke-Narain near Kedarnath, however, there stretches down from North to South a high range of mountains lying a few miles to the west of the Mundakhnee, and the intervening space is occupied by two or three Khalsa villages of Nagpoor, but chiefly by the Suda-burt puttees of Purkundee, Bamsoo and Mykhunda, rent-free endowments of the Kedarnath shrine. In former years of the British rule, there arose some doubt whether this tract of country, being west of the river, did not properly belong to the Raja of Gurhwál's reserved territory, but as it was proved always to have formed a constituent part of Pergunnah Nagpoor, the claim of the Raja was disallowed." (Batten's Report on the Revenue settlement of Gurhwál, Appendix, para. II.)

Jashpál Budha of Changrew appears to be one of the most decent and intelligent of the Byánsis. He considers it the misfortune of his village that it was excluded from the British territory, though their condition has been a good deal improved, he says, since they have been allowed to pay their revenue dues to the Gorkháli Vakíl at the Báges-war Fair (an arrangement suggested by the late Commissioner Traill I believe), instead of suffering the visitations of a Tehsildár; but he complains that no abatement of the Government demands has been made for the loss of whole fields of their village by landslips.

The district of Márma lies to the south (by east) of Byáns, as Dúng does from Chaudáns. There was formerly a pass from the top of the Márma valley into the valley of the Tinkar by the Nampa Dhúra and Gár; but this has become impracticable, and the Márma people going to Pruang (with which they have some little traffic) have now to come round through Dúng and Chaudáns, for they are also snowed up on the north and north-east, having no practicable passes that way into Pruang. Márma has iron and productive copper mines: the people bring copper pots, &c. to Dharchula for barter with the Chaudánsis and Byánsis: they have a Rájbar; his son, Amar Sing, has come to Dharchula occasionally.

Beyond Márma again, eastward and separated by snowy mountains (which are also impassable, I suppose, else the Márma people would go

that way, as being the more direct into Pruang) lies the district of Dhúli, which is the Alpine part of Bázingia, having direct communication and considerable traffic with Pruang viâ Jidi-khar.

Dhúli, is said to have but one single village of Bhótias, all the rest of the people being Khasia.

Bázingia is ruled by a Raja, now Gajráj Sing, who married a daughter of the Maháráj Ráj Rájindra s(h)áh Bikram of Nipál.

Beyond Bázingia, still further east, are Humla (north) and Jumla (south) through which flows the Karnáli after leaving Pruang; and in Jumla it receives another branch, the Beri (or Bheri) whence the united river goes by the name of Beri-karnáli.

Dense clouds and rain all this afternoon; the hut of bare mats which the Bhótias have made for me (very clumsily) is by no means comfortable in this weather. Rain continues all night.

25th September.—Morning still cloudy, but rain stopped. We continue our journey towards Kunti. The road turns off to our left (N. W.) following the course of the Káli, and passing over some very rough and steep ground, a ruinous bank of landslip formed by the channel which the river has excavated through the loose strata of the valley bottom. The mountains rise close on either side in fine precipitous walls of rock, the clay slate formation common to these Alpine regions, the stratification of which has been violently disturbed, contorted, and broken into thousands of castellated crags, the variety of the colors, many shades of red, grey and purple, adding to the picturesque effect. The mountain to our right is Kelirong; in the map its upper part is called Byáns Rikhi, and the lower part Kourtekh. Byáns Rikhi is the proper name, not of the mountain, but of the gentleman supposed to dwell on the top of it, who appears to be identical with the great *Rishi* or sage Vyása or Vyás-deva, reputed author of the Mahábhárat, and sundry Puráns, &c., and *Byáns* seems to be nothing else than the modern form of the old Sanskrit name *Vyása*.

Hirkun (or Hurkun) Budha of Gárbia, Tokdár of Byáns, who accompanies me as Cicerone, &c. asserts that some of the Bhótias have climbed up this mountain for three days and not got to the top (the elevation of which is near 20,000 feet.)

Hereabouts are Jákti on the N. East, and Siti on the S. West bank of the river, hamlets cultivated by the Garbiáls; they have suffered much from landslip, and are not permanently inhabited.



Crossing a small Gárh, Hangehu, which rises from the base of Kelirong, we pass through Tala-Kawa, a hamlet of one or two houses, the land cultivated by the Gunjials, for which they pay *rakam*\* to the Gurkháli government. It is a very picturesque place, with a pretty expanse of open fields bordered by copices of Pine, but the corn, now under the sickle, is very poor looking stuff. Here the gooseberry makes its appearance, by the Byánsi Bhótias called *Guldum*, which is also the Hunia name for the Bisehir grapes (and the Aprieot too); the Jwári name for the gooseberry is *Sirgochi*: also the wild Apple Tree (*Pyrus baccata*) bearing a very small red crab, no bigger than a wild cherry. Both of these fruits are quite worthless.

The hamlet of Tala-Kawa, is a mile or two higher up, round the corner, on the road to Lípu-Lekh, which here turns off to the right.

Hereabouts we met a nondescript sort of person, late from Pruang, a native of Lamjung, in western Nipal on the river Gandaki, called also the Káli and the Sáligrámi. Below Lamjung is Betia, above it is Shámá, an Alpine district inhabited by Buddhist Bhótias, and communicating by snowy Passes with Húndés, which is there, as here, level table-land. This gentleman was not wanting in assurance, but could give no very clear account of himself, or of the countries through which he had travelled. He called himself a pilgrim, but looked more like a "Chevalier d'industrie." With difficulty I extracted a few particles of information from him; he says that the two principal communications between Nipal and Húndés are by Kirong in the western, and Nyánám in the eastern quarter, the former of which (also written Kee-roo) is known to Indian Geography and is about north of Khátmánda; and the latter should be either another name of Kuti, which is the Lhassam frontier village on the road from Khátmánda to Digareha, &c. or else some place else beyond, that though I cannot find such a name in any other authorities. From the "Geographical Notice of Tibet" (J. A. S. No. 4, 1832) by Csoma de Körös, I afterwards found that *Myán-am* is the name of the district. These are frontier posts, commanding the Passes of Nipal, each in charge of two *Zungpun* appointed from Lhassa, and acting jointly like the *Grapan* of Gnari. Deba Phundu, the late Zungpun of Pruang, is now gone to Kirong in the joint office. Kirong must be lower than Pruang, as it has trees and other signs of a

\* Revenue.



more temperate climate. *Kham* is a country of great extent, north and east of Lhassa ; the present Zungpun of Pruang is a *Khampa* (a man of Kham) from some place 20 days north of the capital, south of Digarchá, and Lhassa is the country of *Lho*, the people (*Lhopa* or *Lhoba*) Buddhist Bhótias, of Tibetan character, ruled by their own Lamas. This is the country, which, after the Hindus, we call Bootan, Bhutan, the country of the Daeb or Deb Raja, or the Deba Dharmma, the same visited and described by Turner, who unaccountably omits to give the proper name of it. "Lulumba," as Kishen Kant Bhose has it, Asiatic Researches, 1825, Vol. 15, Art. III, is merely "Lho-lungba," i. e. "the country of Lho, and the "Lobath" mentioned in Soopoon Choomboo's letter to Warren Hastings, 16th November 1781. Turner, Appendix III. is probably a corruption of the same by the Persian translator. The "Kumbauk" there mentioned along with "Lobah," and alluded to by the same name, in other parts of Turner's account, is also, in my opinion, a similar confusion of the country, "*Kam*," with its inhabitants, "*Kham-pa* (the latter corrupted to "*Kumbák*.)

By the valley of the Karnáli, there are no great snowy ridges to be crossed between Humla and Pruang ; so that the route is much easier and practicable, longer than the other in the range of the Nepalese and British Himálaya ; nevertheless, in the height of winter the Humla Pass gets snowed up and becomes difficult or dangerous.

Descending from Tala-Kawa, the Kunti road crosses the Káli, the smaller branch of the river from the N. East, by a small Sanga 150 yards above its confluence with the Kunti-Yáukti, which is the larger branch from the north-west. The Káli at this point has a bed 150 yards wide, but contracting into much narrower limits a mile further up, and the stream is now all but fordable, though in the height of the rains it swells so much as to carry away the bridge here, and the road then has to cross higher up. The Kunti-Yáukti is a third larger than the Káli, both in size of channel and volume of water, and nearly four times the length from source to confluence ; notwithstanding which the eastern and smaller branch has given its name to the united river. The name of the Káli is said to be derived from the Kálápáni springs, erroneously reputed the source of the river, but in fact unimportant tributaries merely ; and both are so called from the dark color of the water ; but even in this respect the Káli is exceeded by the Kun-

ti-Yáukti; such are the foolish contradictions of Hindu Geography. This eastern Káli, however, is now the actual boundary between the British and Nepalese territories, and according to the Bhótias of the place, has always been so; therefore the map also, though theoretically right, is practically wrong in giving the name of Káli to the western river, the Kunti-Yáukti, and drawing the red boundary line along it.

Having crossed the Káli, the road now enters on a fine expanded valley of considerable length. At this end the flat and habitable, if not culturable ground at the bottom must exceed half a mile in breadth; it consists of the same accumulated alluvium and débris that I noticed at the entrance of the valley between Budhi and Gárbia, through which the river cuts a deep and modern-looking channel, leaving, mostly on the east bank, pretty extensive levels for villages and cultivation, but the fields do not appear thriving; the surface of the ground is very stony and the soil probably not so fertile as to compensate for the backwardness of climate and lazy slovenly tillage of the Bhotias.

The first village here is Gungi; the houses, as usual here, ill-built, flat-roofed, two (and some three) storied.

In the fields are Pháphar cut, and wheat ripe; wild plum trees, *Bongbale*, with fruit like that of the English sloe, and apple trees, covered with miserable little erabs. The north-east end of the village land has been devastated by a great landslip which came from the neighbouring mountain, Tipai, 3 years ago, covering the fields with a flood of stony débris.

On the opposite side of the river is the village of Napalehu, situated on the Per-Yáukti, a deep gár coming from Namjung (the 2nd of that name) a snowy mountain to the south-west.

From Kelirong we hear the sound of an avalanche, *Hiunra*, which the Byansis call *Rhi*.

Two miles further on is Nabhi, a village like the others, with a good expanse of ripe wheat in the fields; and opposite to Nabhi, Ronkali, on the Dangnung-Yankti, which comes from a snowy ridge on the south-west, Ronkongper, through a deep ravine, dividing the mountain side. A pass across the Ronkongper, now dangerous and disused, once led into the Pelangár below Budhi; it was by this route that Byáns was entered by Rudurpál, former Rájbar of Ascot, and by him

subdued and annexed to the Ráj of Kumáon under the Gorkhas. The Dangnung is a good sized Yáukti, with several Sángas thrown across it for the intercommunications of the village, which lies on both sides of the stream; and a bridge over the Kunti river connects Nabli with Ronkali. An immense flood of débris brought down by the Dangnung, and by a huge landslip from Sildu, the mountain immediately north of it, has driven the Kunti river close under an advancing spur of the opposite mountain, here a wall of bare rock, the passage round which is rather precipitous, but not particularly difficult or dangerous, the road being built up with some care. Indeed it has appeared to me all along that the Chaudans and Byáns Bhótias have their roads and bridges in much better order than the Jwáris, and the natural difficulties of Upper Chaudans are perhaps greater than those of Jwár, always excepting the road from Milam to Dúng, an impracticable landslip, than which nothing can be worse.

Two miles more along the river bank lead to our encampment on Mangdang, a small level under the mountain Chachala, cultivated by the people of Rongkoli; opposite is Relákáng, a similar hamlet of the Nadhiyál, at the foot of a low hill spur which advances into the valley from the mountain Sháugdoli, well wooded with Pine and Birch. This hill and a huge rocky mountain Nahl, on the right hand, intercept further view up the Kunti valley north-west.

This day was cloudy, but without rain. Thermometer at 4½ P. M. 56°; boiled at 192°, elevation of Mangdang 11,750 feet.

26th September.—Morning fair, Thermometer at sunrise 47°.

Down the valley is a very fine view of the great snowy mountain Ápi, and as we ascend towards Kunti, the Peak of Nampa is disclosed adjoining Ápi on the north-east, the whole an immense mass of pure snow, without-flaw for a mile of vertical height, and now beautifully illumined by the rising sun. I have not yet seen such a fine specimen of perfect snow on the face of the Himálaya. Half a mile from Mangdang the road crosses the Nahl Yankti, a small stream from the mountain of that name; on the opposite side of the river is Ganka, a stream rising in a glacier under a snowy mountain. The valley of the Kunti now contracts in width, the lower slopes of the mountains on both sides leaving little or no level ground at the bottom. The road goes along the east bank of the river, over steep and rough accumula-

tions of débris from the hill side above ; the Kunti here is shallow, but rapid, and 50 or 60 feet wide ; the water much discoloured, either in fact or in appearance, from the dark slate or limestone rocks over which it rushes.

We cross the remains of an old snow bank in the bed of the river, the first met in this journey.

The Pine trees are now getting scarce ; Birch continues and other shrubs ; Red Currant (*Ribes glaciale*), Bhot : *Mángle*, fruits small and insipid ; Black Currant (*R. acuminatum*), Bhot : *Dongole*, fruit equally worthless, said to be very abundant under Ápi and Nampa ; Tarwa-Chuk (*Hippophaë salicifolia*) the berries of which are a palatable acid when quite ripe, otherwise disagreeably sour ; Dog-rose, white and red (*Rosa sericea* and *Webbiana*), *Sephala* and *Gor-Sephala* ; the Viburnum (*V. cotinifolium*), Khas : *Gúiyah*, Bhot : *Kotoble*, with purple berry, which grows in the lower hills also at considerable elevation ; and Wormwood (*Artemisia*), Bhot : *Pankima*, scenting the air with its fragrance.

Cross Nampa (the 2d) a small gárh from glacier, and snowy mountain of the same name ; see marks of the Brown Bear, *Barji*. Further on cross two or three small streams coming from the mountain Shakshiram, and on the opposite side of the river are two larger Gárlis, Selasiti and Khárkulum," from mountains of the same names.

Here we are met by some of the men of Kunti come out for *Istik-bal*, Kiti joint-Pudhán, with Rechu (who has accompanied us from Chingrew), Tanjan, brother, and Tashigal, son of Rechu, the two last young men and boy, clean, well dressed and smart looking, with a pony gaily equipped in embroidered saddle cloth and bell-collar ; they are as decent looking as the best of Jwári Bhótias, and a marked exception to all the rest of the Byánsis that I have seen, who are shabby and dirty, "usque ad nauseam ;" but they are merely got up for occasion I suppose, and will soon relapse into the general degradation of dirt.

The valley now opens again ; the mountains on our right hand recede a little and then come round with a fine theatrical sweep to the northward, enclosing a good expanse of tolerably level ground around the village of Kunti. On the other side of the river, the Pechko comes through a deep ravine from a glacier, under Gyúc Dhúra, by which



there is a pass into Sela of Dárma ; this route is practicable and still in use ; cross Hikong, a stream coming from a glacier under the snowy mountain Kariyc, through a very deep channel in the low ground of the valley bottom, which, the same here as lower down, consists of deep accumulations of débris from the surrounding hill sides.

The Kunti crops, Ua-jo and Phápar, are just reaped : the barley was somewhat damaged by the snow which fell here for three days, the 18th to 20th instant, and yet they say the injury has been less than what they usually experience from frost, which most years sets in, at this village, before the harvest is reaped. Pass through the village of Kunti, the houses ill built, in 2 or 3 wretched stories, resting against the slope of the hill side, and cross the Hiánre, which is a stream like the Hikong, coming from the mountain Gúnye through a deep ravine in the lower ground ; it drives several watermills, Gháto, erected along the bank, the machinery consisting of a single horizontal wheel with oblique floats, or vanes, against which the stream is directed through a small wooden trough, and this construction is probably preferable to that of two movements, vertical and horizontal ; the loss of power in the oblique action being no worse than the excessive friction in the others, and the single wheel more economical and lasting ; the whole concern is contained in a mill house (Ghato-chim) some 6 feet cube.

The proprietors of these mills take 2 seers of flour from each 20 Náli (about 30 seers) of grain ground for their neighbours.

Thermometer at 4 P. M.  $57^{\circ}$  ; boiled at  $190^{\circ}$  ; elevation 13,000 feet, which probably exceeds that of any other village in the British Himálaya.

The appearance of Kunti agrees with my estimate of its elevation ; the mountain sides round about have a scanty covering of brown ill looking grass with a little Juniper and Dáma, the height of a thousand feet or so, above which is bare rock and thin snow. On the other side of the river the mountains throw out some inferior spurs of hill, on which are scanty Birch trees, degenerating to mere shrubs, and the highest of them not 500 feet above the level of the village.

Evening cloudy, with a little rain ; Thermometer at sunset  $47^{\circ}$  ; not particularly comfortable in my hut of bare mats.

*(To be continued.)*







PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR JULY, 1848.

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At a meeting of the Asiatic Society of Bengal held at the Town Hall on Wednesday evening, the 5th of July, 1848, J. W. COLVILLE, Esq., President in the Chair,

The accounts and vouchers for the preceding month were submitted. The proceedings of the last meeting were read.

*Dr. J. McClelland and Lieut. J. H. Maxwell* having been duly proposed and seconded at the May meeting, were ballotted for and elected members.

*Mr. Edward Colebrooke*, Pleader Sudder Dewanny Adawlut, was named for ballot at the August meeting, proposed by Mr. Colvin, seconded by the President.

Read letters—

From A. Allen, Esq. Officiating Secretary to the Government N. W. Provinces, dated Agra, 31st May, forwarding copy of a Journal of the passage from the Dharee falls to the Herenphal (Nerbudda), by Capt. Fenwick, late of the Nizam's service.

From the same, dated 28th June, received the 5th July, forwarding an account of observations made by Lieut. R. Strachey, Engineers, on the motion of the glacier of the Pindur in Kumaon.

From Capt. Thuillier, regarding the form of publication of the Meteorological Register kept in the Surveyor General's Office, also forwarding the Register for June.

From Mr. Hodgson, Darjeeling, enclosing copy of a letter to Capt Cunningham on Himalayan Geography.

From the same, a memorandum on the Tibetan type of mankind.

From Mr. Frith, identifying the insect, of which a drawing was lately received from Brigadier Stacy, as the larva of a species of *Locusta*, Gen. *Acanthodes*.

From Capt. Hutton, notes on the nidification of Indian birds.

From Capt. Kittoe, forwarding a Sanskrit inscription from Behar, with note by Mr. Laidlay.

From Capt. A. Cunningham, the sequel of his essay on the route of the Chinese pilgrim Hwan Thsang through Affghanistan and India, during the first half of the 7th century.

From Colonel Low, communicating four essays and papers :—

1. An account of inscriptions from the Malayan peninsula.
2. Translations from Bali works.
3. Gleanings in Buddhism.
4. General observations on the contending claims to antiquity of Bráhmans and Buddhists, with copies of inscriptions, fac similes of coins, &c.

From the Rev. Mr. Mason, on the Gum Kino of the Tenasserim Provinces.

From the Librarian, Rajendralal Mittra, respecting Wilford's Ancient Geography, with reference to Mr. Elliot's late communication.

From Mr. F. Gomes, reporter to the *Hurkaru*, asking whether Reporters for the public press might be permitted to attend the Society's meetings.

The question having been referred to the meeting was decided in the negative.

A coin from Lieut. Thurburn, several from Colonel Low, copies of inscriptions from the Malayan provinces, two stones from Capt. Frazer of Engineers inscribed with the celebrated formula "Om ! mani padma, hom," in Tibetan and Ranja characters, were exhibited on the table, for which the thanks of the Society were voted to the respective donors.

The communication from the Council regarding Mr. Blyth having been renewed in the terms last proposed,—

Mr. Blyth read a reply to the strictures of the Section of Natural History on his alleged neglect of his duties as Curator.

The Secretary read a letter from Mr. Heatly stating that Mr. Blyth had been long exonerated from the charge of the fossils by the Council of the Society.

The President then proceeded to take the sense of the meeting on the several propositions of the Council, the 1st, "that the Report made by the Section of Natural History on Mr. Blyth's reference be received, read and laid upon the table," having been already carried into effect.

2. Proposed by the Council, "that the Society must decline to forward or support the application of Mr. Blyth to the Court of Directors for an increase of salary or a retiring pension."

Upon this an amendment was proposed by Mr. Newmarch and seconded by Capt. Champneys—"that the Society forward Mr. Blyth's application to the Court of Directors with their recommendation in its support."

After much discussion the amendment having been put to open vote and there appeared

|                      |    |
|----------------------|----|
| For amendment, ..... | 8  |
| Against ditto, ..... | 11 |

The proposition of the Council was then put to open vote and there appeared

|                        |    |
|------------------------|----|
| For proposition, ..... | 12 |
| Against, .....         | 8  |

The proposition was accordingly carried.

The 3rd proposition having been read, "that the Society cannot acquit the Curator of serious neglect of duty in permitting the collections of shells, fossils and insects to fall into the state of dilapidation in which the same are now found to be,"—

The general sense of the meeting was declared to be that the neglect of the *fossils* should not be included in the censure.

This word having been withdrawn, the proposition was put to the vote and lost.

The 4th proposition having been read, "that the Section of Natural History be requested to adopt measures for the restoration and re-arrangement of these collections."

Mr. Mitchell moved as an amendment, seconded by Capt. Champneys,

"That a sub-committee, consisting of Messrs. Frith, McClelland, and Newmarch, be appointed to adopt measures to restore and re-arrange the collections."

Dr. McClelland having declined to act on this committee, the amendment was put to the vote and lost, and the original proposition carried.

The 5th proposition for the printing and circulation to members of the documents submitted in this enquiry having been already acted upon, the 6th was read,

"That the thanks of the Society be voted to the Section of Natural History for the service they have rendered to the Society by their investigation of reports upon the manner in which the duties of the Curator have been discharged."

This proposition having been put to the vote was carried by a majority.

The Librarian having submitted his monthly report the meeting adjourned,

J. W. COLVILE, *President*.

J. W. LAIDLAY, *Secretary*.



## LIBRARY.

The following books have been received since the last meeting :—

*Presented.*

The Silurian System, founded on Geological Researches in the counties of Salop, Hereford, Radnor, Montgomery, Carmarthen, Brecon, Pembroke Monmouth, Gloucester, Worcester, and Stafford; with descriptions of the Coal-fields and overlying Formations.—By R. J. MURCHISON, 1 vol. 4to. and a map.—By J. W. GRANT, Esq.

The History of the Reformation of the Church of England, by Gilbert Burnet, D. D. 2 vols. Rl. 8vo.—By THE SAME.

The Heimskringla; or, Chronicle of the Kings of Norway. Translated from the Icelandic of Snorro Sturleson, with a Preliminary Dissertation, by Samuel Laing, 3 vols. 8vo.—By THE SAME.

The Quarterly Journal of the Geological Society of London, No. 14.—By THE SOCIETY.

Zeitschrift der Deutschen Morgenländischen Gesellschaft, herausgegeben von der Geschäftsführern. Zweiter Band I. und II. luf. —By THE EDITOR.

Zakarija Ben Muhammed Ben Mahmud el Camvini's Kosmographie. Zweiter Theil, كقاب اشا البلاد, De Denkmäler der Länder. Aus den Handschriften des Hn. Dr. Lce und den Bibliotheken zu Berlin, Gotha und Leyden, herausgegeben von Ferdinand Wüstenfeld. Gottengen 1847, 1 vol. 8vo.—By THE EDITOR.

The Calcutta Christian Observer for Aug. 1848.—By THE EDITORS.

The Oriental Baptist, No. 20.—By THE EDITOR.

The Journal of the Indian Archipelago, Vol. II. No. VI.—By THE EDITOR.

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the month of June, 1848.—By THE DEPUTY SURVEYOR GENERAL.

Tatwabodhini Patriká, No. 60.—By THE TATWABODHINI SOBHA.

The Upadeshaka, No. 17.—By THE EDITOR.

*Exchanged.*

The Athenæum, No. 1072.

Journal Asiatique, No. 52.

The London, Edinburgh, Dublin, Philosophical Magazine, No. 216.

*Purchased.*

Calcutta Review, Nos. III. and IV.

The North British Review, No. XVII.

The Annals and Magazine of Natural History, Second Series, No. 5.

Comptes Rendus Hebdomedaires des Seances de l'Academie des Sciences, Nos. 14 to 17.

# Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of July, 1848.

Lat. 22° 33' 23.33" N Long. 88° 23' 12.81" East. Mag. Variation 2° 20' 36" East. Mag. Dip. 27° 45'.

| Barometer reduced to 32° Fahrenheit. | Observations made at sunrise. |              |                       |                    | Maximum Pressure observed at 9h. 50m. |                 |                    |                    | Observations made at 2h. 40m. p. m. |                    |                             |                    | Minimum Pressure observed at 4 p. m. |              |                             |                    | Observations made at sunset. |              |                      |                    | Maximum and Minimum Thermometer. |                 |                      | Rain Gauges. |          |              |                      |          |          |           |          |                    |       |       |
|--------------------------------------|-------------------------------|--------------|-----------------------|--------------------|---------------------------------------|-----------------|--------------------|--------------------|-------------------------------------|--------------------|-----------------------------|--------------------|--------------------------------------|--------------|-----------------------------|--------------------|------------------------------|--------------|----------------------|--------------------|----------------------------------|-----------------|----------------------|--------------|----------|--------------|----------------------|----------|----------|-----------|----------|--------------------|-------|-------|
|                                      | Temperature.                  |              | Wind.                 | Aspect of the Sky. | Temperature.                          |                 | Wind.              | Aspect of the Sky. | Temperature.                        |                    | Wind.                       | Aspect of the Sky. | Temperature.                         |              | Wind.                       | Aspect of the Sky. | Temperature.                 |              | Wind.                | Aspect of the Sky. | Maximum.                         | Mean.           | Minimum.             | Upper.       | Lower.   |              |                      |          |          |           |          |                    |       |       |
|                                      | Of the Mercury.               | Of the Air.  | Of Wet Bulb.          |                    | Direction at sunrise.                 | Of the Mercury. | Of the Air.        |                    | Of Wet Bulb.                        | Direction at 9.50. | Of the Mercury.             |                    | Of the Air.                          | Of Wet Bulb. | Direction at 2h. 40m. p. m. |                    | Of the Mercury.              | Of the Air.  | Of Wet Bulb.         |                    | Direction at 4 p. m.             | Of the Mercury. | Of the Air.          |              |          | Of Wet Bulb. | Direction at sunset. | Maximum. | Minimum. |           |          |                    |       |       |
| Of the Mercury.                      | Of the Air.                   | Of Wet Bulb. | Direction at sunrise. | Of the Mercury.    | Of the Air.                           | Of Wet Bulb.    | Direction at 9.50. | Of the Mercury.    | Of the Air.                         | Of Wet Bulb.       | Direction at 2h. 40m. p. m. | Of the Mercury.    | Of the Air.                          | Of Wet Bulb. | Direction at 4 p. m.        | Of the Mercury.    | Of the Air.                  | Of Wet Bulb. | Direction at sunset. | Of the Mercury.    | Of the Air.                      | Of Wet Bulb.    | Direction at sunset. | Maximum.     | Minimum. | Maximum.     | Minimum.             | Upper.   | Lower.   | Feet. 10. | Feet. 4. | Days of the month. |       |       |
| 29.700                               | 83.2                          | 84.0         | 82.4                  | S. W.              | 29.557                                | 82.2            | 81.0               | 83.0               | Cloudy.                             | 29.482             | 80.2                        | 89.3               | 83.4                                 | S. W.        | 29.165                      | 84.9               | 84.7                         | 83.5         | S. E.                | 29.169             | 87.2                             | 81.3            | 83.6                 | S. E.        | 95.1     | 81.5         | 83.9                 | 95.1     | 81.5     | 83.9      | ...      | ...                | 1     |       |
| 1.00                                 | 83.9                          | 84.1         | 82.1                  | S. W.              | 5.58                                  | 88.3            | 86.8               | 81.6               | Cloudy.                             | 5.59               | 88.7                        | 86.3               | 81.3                                 | Cloudy.      | 5.52                        | 86.1               | 84.2                         | 83.4         | S. W.                | 5.58               | 84.5                             | 84.7            | 84.8                 | Cloudy.      | 90.7     | 87.9         | 84.8                 | 90.7     | 87.9     | 84.8      | ...      | ...                | 2     |       |
| 6.14                                 | 82.7                          | 83.4         | 81.1                  | S. W.              | 6.53                                  | 92.0            | 91.3               | 81.7               | Cloudy.                             | 6.58               | 93.4                        | 91.3               | 85.3                                 | Cloudy.      | 6.56                        | 94.3               | 96.0                         | 86.0         | S. E.                | 6.53               | 92.0                             | 91.5            | 85.0                 | Cloudy.      | 99.1     | 91.2         | 85.2                 | 99.1     | 91.2     | 85.2      | ...      | ...                | 3     |       |
| 6.45                                 | 83.6                          | 84.5         | 82.3                  | S. W.              | 6.67                                  | 92.7            | 91.9               | 81.8               | Cloudy.                             | 6.67               | 92.7                        | 91.9               | 81.8                                 | Cloudy.      | 6.51                        | 96.1               | 91.8                         | 86.2         | S. E.                | 6.50               | 90.2                             | 89.8            | 82.8                 | Cloudy.      | 98.1     | 91.7         | 85.0                 | 98.1     | 91.7     | 85.0      | ...      | ...                | 4     |       |
| 6.59                                 | 82.5                          | 83.4         | 81.5                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.2               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 81.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 5     |       |
| 7.01                                 | 81.0                          | 82.0         | 80.0                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 6     |       |
| 7.03                                 | 81.0                          | 82.0         | 80.0                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 7     |       |
| 7.05                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 8     |       |
| 7.07                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 9     |       |
| 7.09                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 10    |       |
| 7.11                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 11    |       |
| 7.13                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 12    |       |
| 7.15                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 13    |       |
| 7.17                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 14    |       |
| 7.19                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 15    |       |
| 7.21                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 16    |       |
| 7.23                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 17    |       |
| 7.25                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 18    |       |
| 7.27                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 19    |       |
| 7.29                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 20    |       |
| 7.31                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 21    |       |
| 7.33                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 22    |       |
| 7.35                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 23    |       |
| 7.37                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 24    |       |
| 7.39                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 25    |       |
| 7.41                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 26    |       |
| 7.43                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 27    |       |
| 7.45                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 28    |       |
| 7.47                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 29    |       |
| 7.49                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 30    |       |
| 7.51                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 31    |       |
| 7.53                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 32    |       |
| 7.55                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 33    |       |
| 7.57                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 34    |       |
| 7.59                                 | 80.7                          | 81.2         | 79.2                  | S. W.              | 7.03                                  | 91.8            | 91.3               | 83.5               | Cloudy.                             | 7.02               | 91.4                        | 93.4               | 83.0                                 | Cloudy.      | 7.01                        | 94.0               | 92.3                         | 83.0         | S. W.                | 7.01               | 89.2                             | 89.0            | 80.3                 | Cloudy.      | 95.6     | 89.9         | 84.2                 | 95.6     | 89.9     | 84.2      | ...      | ...                | 35    |       |
| 29.740                               | 80.6                          | 81.3         | 79.6                  |                    | 29.575                                | 88.0            | 86.7               | 81.8               |                                     | 29.531             | 89.8                        | 88.1               | 82.0                                 |              | 29.500                      | 89.2               | 87.9                         | 81.6         |                      | 29.481             | 89.2                             | 87.1            | 81.4                 |              | 29.198   | 84.8         | 84.8                 | 80.7     |          | 91.8      | 86.6     | 81.1               | 16.09 | 17.5. |

